PORT OF LIVERPOOL

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

PORT SANITARY AUTHORITY

FOR THE YEAR

1927

BY

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1928.

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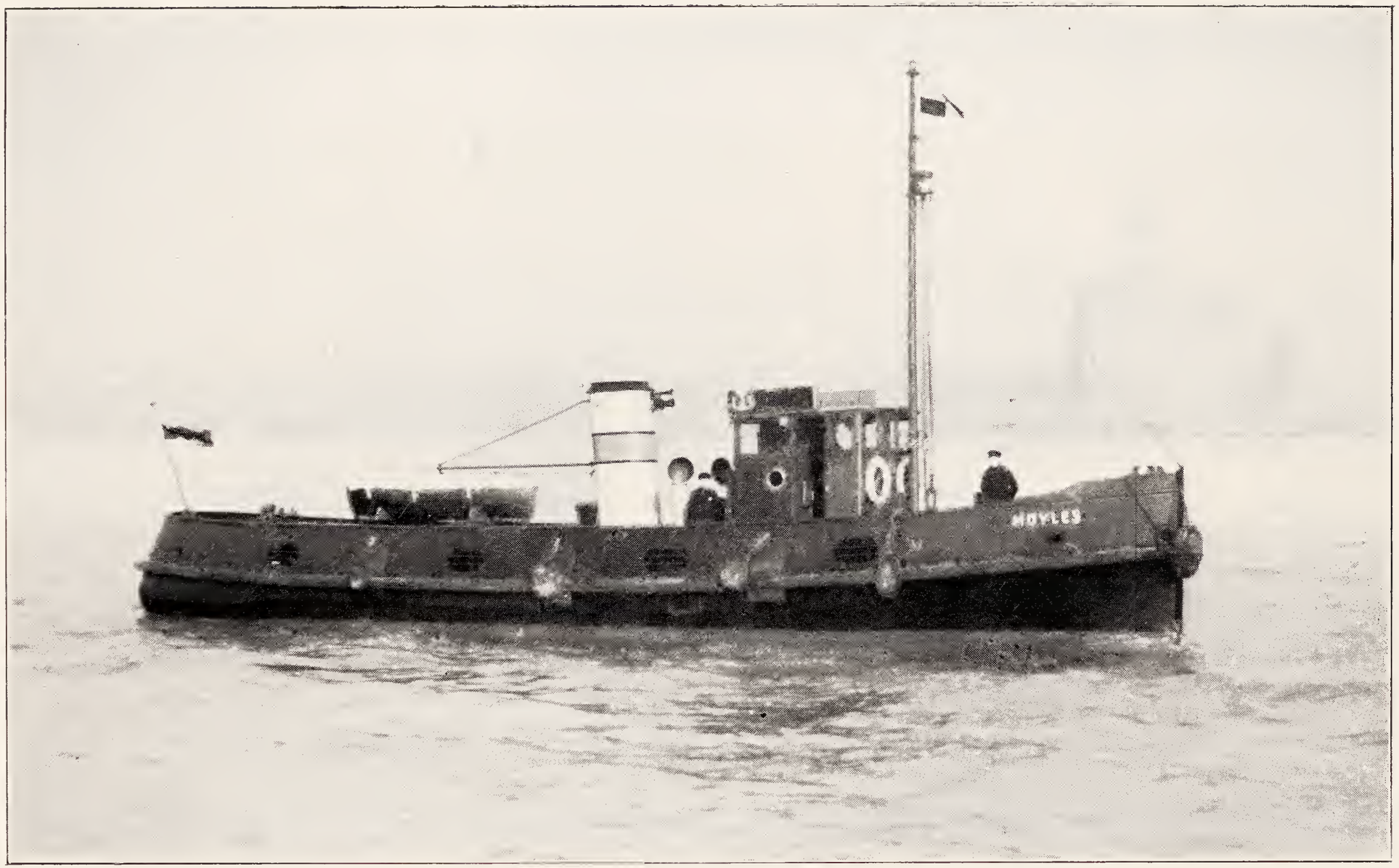


Port Sanitary Authority's Motor Launch "Moyles."

PORT SANITARY AUTHORITY
OF
LIVERPOOL.

REPORT FOR THE YEAR 1927,

BY THE

MEDICAL OFFICER OF HEALTH.

The report of the operations of the Liverpool Port Sanitary Authority for the year 1927 is herewith submitted.

The report covers the work of the Authority during the year and includes an account of—

(*a*) Measures adopted under the Cholera, Plague and Yellow Fever and Allied Orders of the Local Government Board, and under the Port Sanitary Authorities (Infectious Diseases) Regulations, 1920.

(*b*) The measures taken to reduce the number of rats on dock-quays and in ships, and to ascertain the existence of plague among such rats.

(*c*) Action taken in regard to the sanitation of vessels.

(*d*) The inspection of imported foods under the Public Health (Imported Food) Regulations, etc.

(*e*) The medical inspection of aliens under the Aliens Order, 1920.

The limits of jurisdiction of the Port Sanitary Authority are those of the Customs Port of Liverpool as defined in the Treasury Warrant of November 23rd, 1896, which are as follows :—

On and after December 1st, 1896, the limits of the said port (Liverpool) shall commence at the termination of the Port of Chester, namely, at the Red Stones in Hoylake on the Point of Wirral, and continue up the river Mersey on the Cheshire shore thereof, to the west side of the entrance of the Manchester Ship Canal at Eastham, thence in an easterly direction across the said entrance and along the Cheshire shore of the river to Ince Ferry, the western termination on the Cheshire shore of the Port of Manchester, thence across the said river Mersey in a supposed straight line to Dungeon Point, being the western termination on the Lancashire shore of the said Port of Manchester, and continued along the coast of the county of Lancashire to the southern boundary of the Port of Preston, viz., an imaginary line drawn in a true north-north-west direction from the inner north-west sea mark on the beach at Formby Point, shown on the Admiralty chart of the survey of the west coast of England from Formby Point to Kirkcudbright, published on the 23rd day of October, 1893. And the said port shall include all islands, rivers, bays, channels, roads, bars, strands, harbours, havens, streams and creeks, except the said Manchester Ship Canal, within the said limits contained, and shall extend seaward, to a distance of three miles from low water mark along the coast within the aforesaid limits.

The contributing Riparian Authorities are the County Boroughs of Birkenhead, Bootle and Wallasey, and the Urban District Council of Bebington and Bromborough.

The jurisdiction of the said Port Sanitary Authority shall extend to the whole of the said Port of Liverpool, including the place or places for the time being appointed as the Customs Boarding Station or Stations for the said port, and the place for the time being appointed for the mooring or anchoring of ships for the said port under any regulations for the prevention of the spread of diseases, issued under the authority of the statutes in that behalf, and all rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks belonging to the said port, and so much of the district of any Riparian Authority as comprises any dock, basin, quay, wharf or other place for the embarkation or disembarkation of persons; or the lading, unlading, transhipping, or removal of goods on or from any ship, vessel or boat.

TABLE 1.

AMOUNT OF SHIPPING ENTERING THE PORT SANITARY DISTRICT DURING THE YEAR 1927.

Class of Vessels.	Number.	Tonnage.	Number Inspected.		Number reported to be Defective.	Number of Orders Issued.
			By the Medical Officer.	By the Sanitary Inspector.		
	(1)	(2)	(3)	(4)	(5)	(6)
FOREIGN—						
Steamers	6,998	13,519,795	980	4,213	882	832
Motor						
Sailing	51	11,269	—	—	—	—
Fishing	—	—	—	—	—	—
TOTAL FOREIGN	7,049	13,531,064	980	4,213	882	832
COASTWISE—						
Steamers	7,956	2,290,285	17	1,428	65	65
Motor						
Sailing	54	6,281	—	3	1	1
Fishing	—	—	—	—	—	—
TOTAL COASTWISE	8,010	2,296,566	17	1,431	66	66
TOTAL FOREIGN AND COASTWISE	15,059	15,827,630	997	5,644	948	898

(Includes mechanically-propelled vessels other than steamers.)

Figures in columns 1 and 2 supplied by H.M. Collector of Customs for this Port.

Infectious Diseases.

The methods adopted in Liverpool to prevent the importation of infectious disease from abroad are briefly as follows :—

(1) The boarding by the Assistant Port Medical Officers of certain vessels on arrival in the river, and before docking :—

(*a*) Vessels which during the previous two months have called at ports where dangerous infectious disease is known to exist.

(*b*) Vessels in which infectious disease exists at the time of arrival, or has occurred during the voyage.

(2) The visiting of all vessels in dock by sanitary inspectors as soon as possible after docking.

(3) The trapping of rats in ships and on quays and their examination for plague infection.

(4) Co-operation with the officers of His Majesty's Customs, who report to the Port Sanitary Authority if they obtain information of any sickness, likely to be infectious, on board vessels visited by them.

Information of the arrival of vessels which, under the regulations of the Port Sanitary Authority, must be boarded by the Port Medical Officer before docking is obtained through the assistance of the pilots. All ships, except very small craft, entering the Port of Liverpool, must be navigated into the port by either a licensed pilot or a master or mate holding a Liverpool pilot's certificate, and on account of this the Liverpool Port Sanitary Authority is particularly fortunate, because willing assistance has always been given by the pilots in the carrying out of the regulations. All pilots are supplied with a book by the Port Sanitary Authority containing certain questions to be put to the master immediately on boarding, and also a list of infected ports, where dangerous infectious disease is known to exist. These instructions, together with the list of ports, are amended from time to time, and are now as follows :—

Port of Liverpool Sanitary Authority

To Pilots, and Masters of Inward Bound Vessels.

1. All Pilots should carry this booklet when on duty and immediately on boarding any inward bound ship should instruct the Master to read these directions carefully and to answer the following questions:—

(i) Have you during the voyage had on board any case of INFECTIOUS DISEASE, or any sickness which may be of an infectious nature?

(ii) Have you, within the previous two months called at any of the ports mentioned on the opposite page?

If the answer to either question is "Yes," or if the Master is in any doubt as to the nature of any sickness or the cause of any death which has occurred on board, the Pilot should instruct the Master as follows:—

(i) To send a wireless message to "STORM, LIVERPOOL," giving name of vessel, expected time of arrival in the Mersey, whether for Liverpool (North or South), Birkenhead, Garston or Manchester, and stating that the Doctor is required.

(ii) To report Formby Lightship for the Doctor.

(iii) To hoist the Quarantine Flag by day and the Quarantine Light by night.

NOTE.—The strict observance of the directions will greatly facilitate the clearance of vessels.

Pilots should, therefore:—

(1) Carry out these directions in regards to every inward bound ship.

(2) See that this booklet contains the latest list of infected Ports.

(3) Immediately apply to the Port Sanitary Authority, Prince's Pier Head, Liverpool, if they lose this booklet.

LIST OF

INFECTED PORTS.

SINGAPORE
JAVA PORTS
RANGOON
INDIAN PORTS
COLOMBO
ALEXANDRIA
BEYROUT
GRECIAN PORTS
MADAGASCAR
LAGOS
PERUVIAN PORTS
GUAYAQUIL
RIVER PLATE PORTS
DAKAR

PORT SANITARY AUTHORITY.

Before the opening of Gladstone Dock in July, it was possible for ships to dock only at certain states of the tide, and a medical officer was on duty from three hours before high water to one hour after high water for the purpose of ship inspection. Since the opening, vessels bound for the north system of docks can enter at any state of the tide, and consequently a medical officer is always on duty, day or night, in order that no delay should be caused to any vessel which has to be visited by the Port Medical Officer.

All vessels, whether from infected ports or not, arriving in Liverpool are visited as soon as possible after docking by a sanitary inspector, who enquires into the occurrence of any sickness during the voyage and, if necessary, communicates with the Port Medical Officer. He then proceeds to examine the sanitary condition of the vessel.

Plague.

During 1927 human cases of plague were reported from many of the ports at which Liverpool-bound vessels call, there has, therefore, been present a continual danger of the importation of this disease into the Port of Liverpool, with the possibility of spread into the inland districts of Great Britain, and an increasing watch must be kept upon vessels arriving from such plague-infected ports, not only upon the crews but also their cargo and their rat population.

In spite of this wide field of infection no case of human plague has arrived in the port during the year nor has any rat infected with the disease been discovered.

Reference to the map facing page 12 will show that plague has been persistently present during the last three years, most especially in Mediterranean ports, Africa, India, Indo-China and South America, while Rangoon, Colombo, Bombay, Lagos and Cayor have been the most heavily infected individual ports. But it must be remembered when reading this map that reference is only made to reported cases of human plague, and not to the incidence of the disease among rats. For, as yet, the routine examination of rats for plague infection is carried out in comparatively few of the ports of the world, and therefore, the first indication of the presence of the disease has, of necessity, been shown only by the occurrence of human infection.

In Liverpool close co-operation is maintained between the Port Sanitary Authority and the City Bacteriological Department, with the result that samples of rats on all ships from plague-infected ports are taken by the rat catchers and are examined by the City Bacteriologist for the presence of the plague bacillus.

Since infection of rats always precedes infection of human beings, the plague bacillus being carried from rat to man by the flea, such information with regard to the rat population as can thus be obtained

from the bacteriologist is of the greatest importance in the forestalling of an outbreak of human plague.

It is therefore necessary—

(1) That the presence of any infected rats should be discovered at the earliest possible moment.

This is ensured by the routine searching and trapping of all vessels entering the Port of Liverpool from plague-infected ports, and this is carried out by the searchers and catchers of the Port Sanitary Authority.

(2) That, where infected rats are discovered, immediate steps should be taken to prevent the spread of the disease from the vessel to the shore.

As soon as the City Bacteriologist reports that plague bacilli have been found in a rat from a vessel, or a case of plague is discovered on board by the boarding medical officer, then the following procedure is carried out :—

The cases, or cases suspected of suffering with plague, are removed to the Port Sanitary Hospital, together with any "contacts" whose removal would, in the opinion of the medical officer, be advisable.

The master of the vessel is then instructed to proceed to the berth allotted, and the vessel is moored away from the quay a distance of six feet by dummy barges or by other means. Rat guards are placed on all the mooring lines. All gangway doors are closed and all gangways lifted from sunset to sunrise, except during the discharge of cargo, but if the gangway must be kept down, a special watchman is placed at the head of the gangway, which is whitewashed and illuminated by a lamp. Thus the egress of rats to the docks is prevented.

The vessel is completely fumigated to destroy all rats on board, either before or after the removal of the cargo, but in the latter case the cargo

is unloaded only under the supervision of the Port Sanitary Authority, and a strict watch is kept for signs of rat infestation.

All rats caught or found dead on the vessel are sent to the bacteriologist for examination, and traps are set on the quay, in the warehouses to which the cargo is sent, and on ships in the vicinity.

The crew, workers on the vessel and on the docks in the vicinity, and workers removing the cargo, are all kept under observation for a certain time, until the risk of infection has passed.

Finally, it is the aim of the Port Sanitary Authority to carry out all the necessary measures to prevent the spread of plague from an infected ship with the greatest expediency possible, so that the demurrage dues, delay in landing cargo, etc., etc., may be kept at a minimum.

Suspected plague.

No actual cases of plague were landed in Liverpool during the year.

S.S. "Circassia." This vessel arrived on February 18th, and two natives (one officers' steward and one fireman) were sent to New Ferry Hospital for observation. It was subsequently proved that neither of these men were suffering from plague.

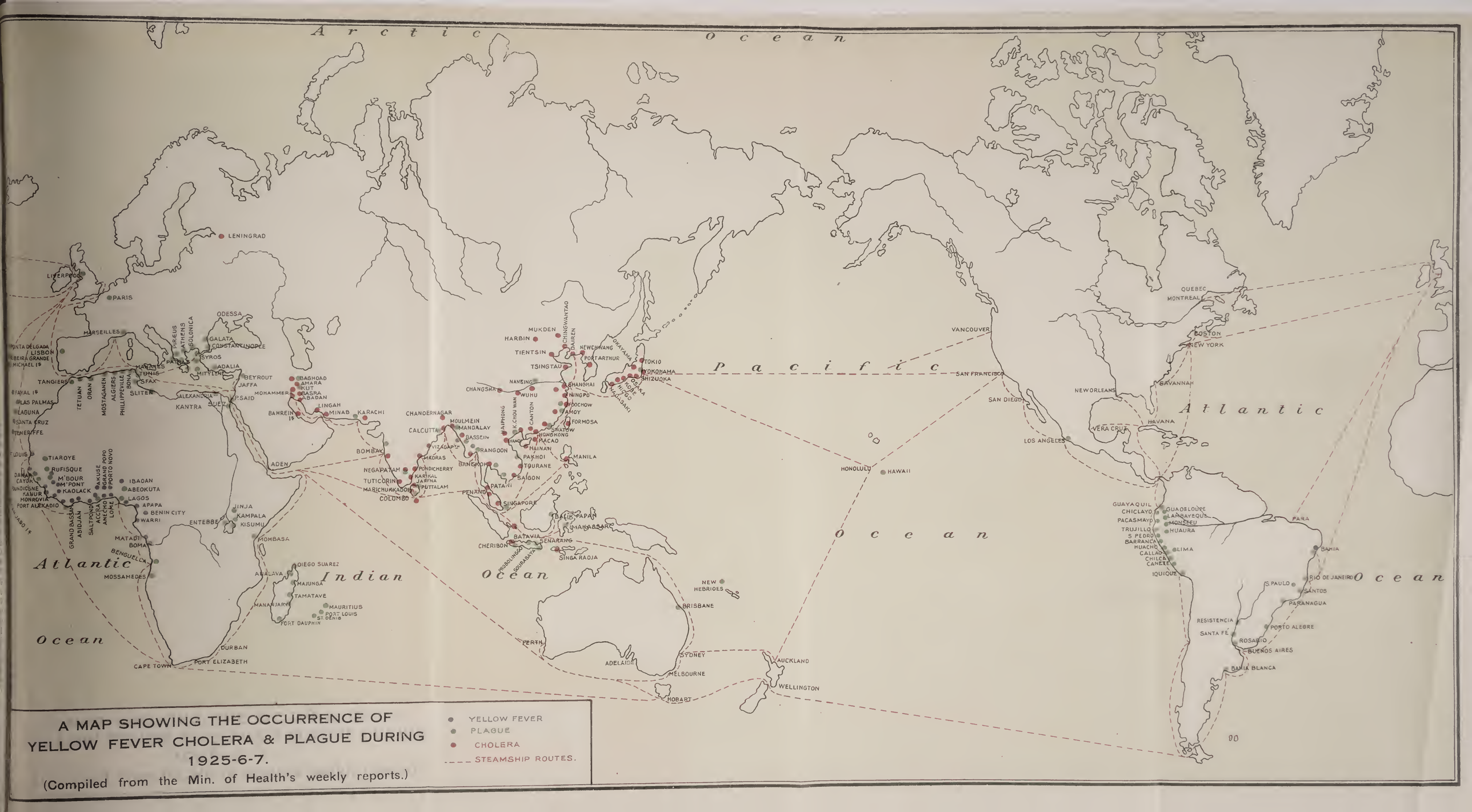
S.S. "Sunpath." Notification was received from the Ministry of Health on August 26th, 1927, that a case of suspicious inguinal adenitis had been landed from s.s. "Sunpath" at Port Sudan on August 12th. The vessel arrived in the Mersey on October 2nd, 1927, and the captain reported that he was from Durban, Madagascar, Ascension Island, Seychelles, Port Sudan, Port Said, Malta and Gibraltar. On August 13th a fireman was landed at Port Sudan with enlarged glands of the left groin. The case was diagnosed as suspected plague. The vessel remained in Port Sudan for six days and the

captain understood that the examination of the patient had revealed no positive evidence of plague; however, the vessel was under quarantine in the port, and also passed through Suez Canal in quarantine. The vessel put in to Malta on account of engine trouble, and remained there two weeks, and was subjected to quarantine, the crew being examined on several occasions, but the ship was not fumigated. The vessel was released from quarantine on September 9th. On arrival in Liverpool one case of sickness was reported (the carpenter) who complained of a swelling in the right groin. This proved to be a small reducible hernia. The vessel docked at Birkenhead, and was thoroughly searched for sick or dead rats without result.

S.S. "Marauke." Suspected rodent plague. This vessel arrived in Liverpool from the East Indies on October 6th, 1927, and was boarded on arrival in the river by the Assistant Port Medical Officer. The only case of sickness amongst the Chinese crew was one of venereal disease. The cargo consisted of rice, rice meal, palm kernels, ground nuts and palm oil. On October 8th, the City Bacteriologist reported that a rat caught on the vessel showed signs suspicious of plague infection. Records showed that this rat was trapped alive in the bunkers of s.s. "Marauke." The vessel was immediately visited, and steps were taken to prevent rats passing from ship to shore. The crew were examined, but nothing suspicious of plague was discovered. Crews quarters, engine room, bunkers, stores, etc., were carefully searched and more traps set. On October 9th the City Bacteriologist reported that the cultures were not those of plague. On October 10th the vessel was permitted to continue the discharge of cargo under supervision by rat searchers. The adjoining sheds were carefully searched and traps set; the holds of the ship were also searched, but nothing suspicious of plague infection was found. On October 12th the City Bacteriologist further reported that the condition found in the rat under suspicion was definitely not plague, and the master of the ship was given a letter explaining the situation up to the time the vessel left Liverpool.

The following table gives more detailed information as to the occurrence of certain diseases in some of the more important ports visited by Liverpool shipping, as shown on the map facing this page. The figures indicate the actual numbers of cases reported from these ports.

	PLAGUE.				CHOLERA.				YELLOW FEVER.			
	1925	1926	1927	Total.	1925	1926	1927	Total.	1925	1926	1927	Tota
Las Palmas	1	6	12	19	0	0	0	0	0	0	0	
Teneriffe	0	2	0	2	0	0	0	0	0	0	0	
Marseilles	4	1	0	5	0	0	0	0	0	0	0	
Patras	4	16	9	29	0	0	0	0	0	0	0	
Constantinople	7	21	5	33	0	0	0	0	0	0	0	
Oran	0	43	7	50	0	0	0	0	0	0	0	
Lagos	69	446	149	664	0	0	0	0	7	6	4	1
Dakar	0	0	45	45	0	0	0	0	0	0	41	4
Accra	1	0	0	1	0	0	0	0	3	3	15	2
Mauritius	75	39	6	120	0	0	0	0	0	0	0	
Suez	6	19	1	26	0	0	0	0	0	0	0	
Port Said	15	0	8	23	0	0	0	0	0	0	0	
Alexandria	3	11	17	31	0	0	0	0	0	0	0	
Beyrout	10	8	4	22	0	0	0	0	0	0	0	
Basra	1	0	0	1	0	0	385	385	0	0	0	
Baghdad	15	241	14	270	0	0	66	66	0	0	0	
Calcutta	11	0	1	12	947	1499	2080	4526	0	0	0	
Madras	0	0	0	0	159	112	493	764	0	0	0	
Negapatam	1	3	0	4	12	102	49	163	0	0	0	
Bombay	163	52	195	410	11	14	83	108	0	0	0	
Karachi	48	23	3	74	0	0	1	1	0	0	0	
Colombo	75	13	73	161	2	1	0	3	0	0	0	
Bassein	5	0	106	111	0	0	44	44	0	0	0	
Rangoon	624	220	160	1004	60	137	78	275	0	0	1	
Bangkok	23	42	11	76	483	2694	210	3387	0	0	1	
Singapore	57	8	4	69	1	25	16	42	0	0	0	
Saigon	10	15	6	31	10	336	227	573	0	0	0	
Sourabaya	14	23	20	57	0	0	0	0	0	0	0	
Manila	0	0	0	0	225	27	4	256	0	0	0	
Hong Kong	0	0	0	0	2	3	3	8	0	0	0	
Amoy	0	101	0	101	1	236	109	346	0	0	0	
Shanghai	0	0	0	0	595	685	91	1371	0	0	0	
Dairen	0	0	0	0	0	6	3	9	0	0	0	
Nagasaki	0	0	0	0	1	0	0	1	0	0	0	
Kobe	0	0	0	0	28	0	0	28	0	0	0	
Yokohama	0	7	0	7	52	1	0	53	0	0	0	
Bahia	22	4	0	26	0	0	0	0	0	11	0	1
Rio de Janeiro	0	4	2	6	0	0	0	0	0	0	0	
Rosario	1	0	3	4	0	0	0	0	0	0	0	
Santa Fé	6	0	1	7	0	0	0	0	0	0	0	
Guayaquil	97	88	96	281	0	0	0	0	0	0	0	
Huacho	0	0	20	20	0	0	0	0	0	0	0	
Lima	0	59	39	98	0	0	0	0	0	0	0	



A MAP SHOWING THE OCCURRENCE OF YELLOW FEVER CHOLERA & PLAGUE DURING 1925-6-7.

(Compiled from the Min. of Health's weekly reports.)

- YELLOW FEVER
- PLAGUE
- CHOLERA
- STEAMSHIP ROUTES.

Rats and Plague.

All vessels from plague-infected ports are visited by the rat searchers and catchers of the Port Sanitary Authority, who set traps and also report upon the degree of rat infestation, basing their opinions upon the presence of rat excreta, whether fresh or stale, together with any signs of gnawing of the woodwork, cargo, &c.

Where a vessel is thus reported to be " ratty," whether from an infected port or not, the information is passed on to the owners in question, with a request that adequate measures shall be taken to destroy the rats. On such a vessel the destruction is carried out by fumigation either with sulphur or hydrocyanic acid gas, since the duties of the Port Sanitary Authority catchers do not include the wholesale destruction of rats, but only trapping to obtain samples for bacteriological examination.

On the quay each catcher works over a definite district, and within this area systematically searches and traps every shed, roadway and berth five or six times during the year. The searchers especially examine all stores, lockers, meter boxes and other places where rats are likely to harbour, and where recent evidence of rats is present steps are taken to ensure that the area in question shall be cleared. In sheds where vessels from plague-infected ports are discharging cargo, traps are set daily until all the cargo has been removed.

Both on board vessels and on the docks the rat inspectors search carefully for sick or dead rats, and these, when found, are immediately forwarded to the City Bacteriologist for examination.

These methods of rat extermination, however carefully they are carried out, are of true value, in the prevention of the occurrence of plague in this port, only if areas of possible rat harbourage on the docks and quays are also cleared away. The utmost care is taken, therefore, to ensure that there shall remain no place in which rats can nest and multiply.

Huts and offices are either raised 18 inches to 2 feet above the level of the floor of the shed, the space beneath being kept clear of all refuse, or, standing on a concrete floor, the base of the hut is reinforced all

round with concrete, so that it is impossible for rats to burrow underneath.

Collections of gear used in the working of cargo very frequently serve as possible areas of rat harbourage, but marked improvement has been noted since raised platforms have been built in many of the sheds upon which the ropes, tarpaulins, etc., are stowed. So marked, indeed, has been the recent improvement in the rat proofing of sheds that it is becoming a rare occurrence, except in the oldest docks, where the structure of the sheds is of such a nature that rat "runs" along the top of walls, etc., are made possible, for nests of rats to be found or complaints of rat infestation made by workers in the sheds.

It is only by repeated attention to this problem, by the frequent moving of piles of gear and ropes, by the daily clearing of all rubbish, not only from the sheds but also from the roadways between docks, and by constant supervision and repair, that this most important part of the work in maintaining the port free from rodent plague can be accomplished.

Without the willing support and assistance of the owners little can be done. With their aid, and that of the Mersey Docks and Harbour Board—so freely granted in the past—complete success is possible and the menace of plague infection in the Port of Liverpool can be brought to a minimum.

In making a survey of the rat population of a port in connection with plague preventive measures, it is desirable to distinguish between the different varieties of rats which are met with. The association of the black rat or ship rat with plague infestation renders it desirable that these observations should be made.

There are two species of rat to be found in this country, the brown rat—Rattus norvegicus, and the black rat—Rattus rattus. The former is widely spread throughout the country, being a wild and burrowing type of animal, found in the banks of watercourses, in sewers and in drains. It is of greater size and strength than the black rat, is somewhat more shy of man and thus makes it of less importance as a carrier of plague. The black rat is a ship or house rat, which has been carried by human commerce to all the ports of the world, and where it has not

had to compete with the formidable R. norvegicus, and the conditions have been suitable, large colonies have been established. The black rat appeared and remained in Europe throughout the Middle Ages, and the terrible outbreaks of plague which occurred in the population of Europe in past times have been undoubtedly ascribed to this animal and its parasites. This rat is essentially arboreal or climbing, and rarely burrows, but lives in walls and ceilings in preference to drains and cellars. The recognition of the two species is really a very simple matter—R. norvegicus is greyish or reddish brown in colour, but the identification depends more on form than colour, as some brown rats are black, and most black rats are brown. The three most important points of distinction are—the general size and build, the ears, and the tail.

The differences may be summarised :—

R. NORVEGICUS (brown).	R. RATTUS (black).
Size.—Larger, general build, heavy and rather clumsy.	*Size.*—Smaller, general build elegant and slender.
Weight of adult.—14-17 oz., frequently more.	*Weight of adult.*—8 oz., frequently less.
Muzzle.—Blunt.	*Muzzle.*—Sharp.
Ears.—Small, densely clad, with fine hairs, thick and opaque, and scarcely reaching the eyes when pressed forward.	*Ears.*—Large, almost naked and translucent, reaching or covering the eyes when pressed forward.
Tail.—Stout, never as long as the combined length of body and head.	*Tail.*—Slender, as long as, and often considerably longer, than combined length of head and body.

The black rat, R. rattus, is divided into three varieties, which are perfectly distinct from one another. One of these, R. rattus alexandrinus, is so superficially like the common brown rat in colour that mistakes are often made in identification by persons unfamiliar with the specific differences. There are three phases in the colour of the fur of the black rat which it is convenient and natural to regard as distinct sub-species :—

Rattus rattus rattus.—Back, black; belly, smoky grey.

Rattus rattus alexandrinus.—Back, brownish grey; belly, more or less dingy.

Rattus rattus frugivorus.—Back, yellowish or reddish brown; belly, pure white or lemon colour.

Banana crates as rat harbourage.

During the year an investigation was made at the request of the Ministry of Health to ascertain whether rats may come ashore from vessels in banana crates. From March 22nd to May 15th every vessel bringing bananas to the port was visited by a senior sanitary inspector, and also by one of the rat searchers. The inspector made observations of a proportion of crates before and after landing, and made enquiries among the stevedores. The rat searcher attended throughout the discharge of bananas, examining crates, and watching for signs of rats bolting during the handling of cargo.

Packing.

Bananas arrive from the Canary Islands in either wooden crates or cylindrical drums of cardboard. In either case the bunches are first wrapped in tissue paper, then in cotton wool, and finally in straw or dried banana leaves. The drums are open at the ends, except for two crossed battens, and have an inspection hole on each side, through which the packing can be pushed aside and the condition of the fruit ascertained. At first sight the crates and drums appear ideal nesting places for rats, but from the investigations it would appear :—

(1) That the packing is so tight that rats cannot bolt into the crates—they must work their way in.

(2) That though rats do use the paper, straw, and wool for nesting material, they prefer to make their nests between the crates rather than inside them.

(3) That rats are not particularly fond of bananas as food, as bunches are very rarely found to be damaged.

Results of observations.

Fifteen vessels carrying a total of 69,659 crates and drums of bananas were examined in the seven weeks during which the investigations were

carried out. In no case did the inspector find evidence that rats were, or had been, harbouring in the crates, nor was he able to ascertain from the stevedores and other persons handling the crates at the time of unloading, that rats were actually observed bolting from the crates. It was stated, however, that rats were frequently killed amongst the crates, but the men were not prepared to state whether the rats came from inside the crates or between them.

The rat searcher carefully examined a large number of crates and drums. As a rule he reported them to be well packed and showing no signs of having sheltered rats. The only exceptions were :—

(1) On April 19th, during unloading from the s.s. "Ardeola" he found a rat's nest made of paper and straw *between* two crates of bananas. On examination it was found that one bunch of fruit in one of the crates had been nibbled, and that nine other crates in the vicinity had been tampered with; rats having pulled out some of the packing to make nests, but it did not appear that the rats had been actually inside the crates. In this ship two more rats' nests were found close to the side of the ship between banana crates.

(2) On April 1st, during the discharge of bananas from s.s. "Laplace," a rat bolted but made no attempt to take shelter in the crates.

(3) On April 11th, in the s.s. "Boma," two rats bolted from between crates of bananas, but no sign of any crate having been entered could be found.

(4) On May 2nd, in the s.s. "Alondra," a rat's nest made of banana leaves and straw was found between two crates and a rat bolted, but no signs of any entrance into a crate in the vicinity could be found.

Crates recently unloaded on the quay were also watched, but nothing to indicate that rats were harbouring in the crates was seen.

TABLE 2.

PARTICULARS RELATING TO VESSELS "INFECTED" OR "SUSPECTED," OR FROM INFECTED PORTS.

Number of Vessels.			Methods of Rat Destruction Employed.			Number of Rats Killed.	Certificates of Deratisation Issued.	Remarks.
No. of Vessels.	Date of Arrival.	Whether Infected.	Fumigation by Sulphur Dioxide.	Fumigation by Hydrocyanic Acid.	Trapping, Poisoning, etc.			
1.	2.	3.	4.	5.	6.	7.	8.	9.
666	1927	* From Infected Ports.	26	—	640	Rats. Mice. 4,616 70	26	

* (Includes Manchester-bound Vessels.)

TABLE 3.

VESSELS (OTHER THAN THOSE DEALT WITH IN TABLE 2) SUBJECTED TO MEASURES OF RAT DESTRUCTION.

Number of Vessels Fumigated by SO_2.	Number of Rats Killed.	Number of Vessels Fumigated by HCN.	Number of Rats Killed.	Number of Vessels on which Trapping, Poisoning, etc., were employed.	Number of Rats Killed.	Number of Fumigation Certificates Issued on Form "Port 10."	Number of Other Certificates Issued.	Remarks.
1.	2.	3.	4.	5.	6.	7.	8.	9.
88	Rats. Mice. 841 93	5	Rats. Mice. 24 —	356	Rats. Mice. 2,394 96	69	20	

TABLE 4.

TABLE SHOWING THE NUMBER OF RATS AND MICE OBTAINED ON SHIPS AND QUAYS BY THE AUTHORITY'S RAT-CATCHERS.

Year.	NUMBER OBTAINED.			NUMBER					
				EXAMINED.			DESTROYED.		
	From Ships.	From Quays.	Total.	From Ships.	From Quays.	Total.	From Ships.	From Quays.	Total.
1918	7,251	1,188	8,439	5,541	1,159	6,700	1,710	29	1,739
1919	8,971	1,336	10,307	6,023	1,287	7,310	2,948	49	2,997
1920	8,088	1,593	9,681	5,276	1,517	6,793	2,812	76	2,888
1921	8,867	2,405	11,272	5,031	2,195	7,226	3,836	210	4,046
1922	10,642	2,830	13,472	5,520	2,519	8,039	5,122	311	5,433
1923	12,097	1,625	13,722	5,629	1,460	7,089	6,466	167	6,633
1924	13,509	1,963	15,472	4,981	1,658	6,639	8,528	305	8,833
1925	11,088	2,508	13,596	4,882	2,065	6,947	6,206	443	6,649
1926	*8,827	2,800	11,627	4,493	2,312	6,805	4,334	488	4,822
1927	8,134	2,496	10,630	4,836	1,945	6,781	3,298	551	3,849
Total.....	97,474	20,744	118,218	52,212	18,117	70,329	45,260	2,629	47,889

* 373 mice are included in these figures.

TABLE 5.

NUMBER AND SPECIES OF RATS CAUGHT, EXAMINED, OR DESTROYED, RESPECTIVELY, IN THE CITY AND PORT OF LIVERPOOL, DURING THE YEAR 1927.

1927.	Warehouses.		Sewers.		Other Places.		Total.		Ships.		Quays.		Other Sources.		Total.	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	136	374	—	417	8	300	144	1,091	694	3	241	21	16	72	951	96
February ...	197	423	—	355	5	322	202	1,100	557	—	81	24	14	24	652	48
March	414	309	—	437	20	382	434	1,128	830	—	76	6	7	53	913	59
April	257	350	—	391	2	427	259	1,168	679	2	148	52	35	34	862	88
May	237	482	—	459	51	641	288	1,582	555	—	149	28	28	9	732	37
June	312	291	—	437	1	557	313	1,285	816	—	80	38	17	115	913	153
July	320	339	—	421	6	424	326	1,184	328	—	100	56	30	5	458	61
August ...	186	324	—	327	1	407	187	1,058	738	11	43	35	45	1	826	47
September ...	265	339	—	527	5	541	270	1,407	740	1	92	40	48	10	980	51
October ...	240	310	—	538	12	516	252	1,364	875	1	59	35	16	7	950	43
November ...	169	443	—	474	12	541	181	1,458	594	4	125	28	23	6	742	38
December ...	138	165	—	350	9	328	147	843	446	1	102	18	76	14	524	33
TOTAL ...	2,871	4,149	—	5,133	132	5,386	3,003	14,668	7,852	23	1,296	381	355	350	9,503	754

TABLE 5.—*Continued.*

1927.	Examined (City).		Destroyed (City)		Examined (Port).		Destroyed (Port).		Total Caught. City and Port.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black and Brown.
January	10	54	134	1,037	706	86	245	10	2,282
February	11	70	191	1,030	487	46	165	2	2,002
March	29	84	405	1,044	560	53	353	6	2,534
April	24	67	235	1,101	550	66	312	22	2,377
May	22	72	266	1,510	543	33	189	4	2,639
June	45	137	268	1,148	419	51	494	102	2,664
July	18	60	308	1,124	376	57	82	4	2,029
August	8	69	179	989	503	32	323	15	2,118
September	23	101	247	1,306	469	37	411	14	2,608
October	14	94	238	1,270	402	38	548	5	2,609
November	18	97	163	1,361	576	34	166	4	2,419
December	10	48	137	795	495	31	129	2	1,647
TOTAL	232	953	2,771	13,715	6,086	564	3,417	190	27,928

TABLE 6.

The combined returns of all rats and mice caught and destroyed by shipping firms employing their own rat-catchers, by rat-catching companies, and by the Public Health Authorities, during the year 1927, are as follows:—

	Rats.	Mice.	Rats.	Mice.
PORT—				
In vessels	31,357	259		
On quays	2,382	114		
			33,739	373
CITY—				
In warehouses	7,020	—		
In sewers and from other sources ...	10,651	83		
			17,671	83
		TOTAL ...	51,410	456

Number of Visits to **Vessels** by Rat Catchers	5,076
Do. do. do. Rat Searchers	3,482
Do. do. **Quays, Sheds, etc.**, by Inspectors ...	1,081
Do. do. do. do. Rat Searchers	1,126
Do. do. do. do. Rat Catchers	3,454

Smallpox.

No case of smallpox was landed in Liverpool during the year.

Ten vessels arrived which had left cases of smallpox or suspected smallpox at other ports during the voyage.

S.S. "Alaunia."—A wireless message was received from this vessel on February 5th, notifying a case of smallpox among the crew. The vessel arrived in the Mersey on February 8th, and was boarded by the Assistant Port Medical Officer. The ship's surgeon reported that on January 20th, 1927, the 1st wireless operator was diagnosed as suffering from smallpox. He was landed at Halifax on January 22nd, and the diagnosis was confirmed by the quarantine medical officers. The crew were all vaccinated.

On February 2nd, the 4th engineer was taken ill and the condition was diagnosed as chickenpox, but on February 5th the rash developed further, and the diagnosis was changed to smallpox. On examination on arrival the last case was undoubtedly one of chickenpox, and the history and description of the previous case also pointed to chickenpox.

All addresses were checked, but as 18 days had passed since the last possible day of exposure to infection they were not circulated to the Medical Officers of Health of the districts of destination.

S.S. "Aba."—This vessel arrived in Liverpool on May 8th, from West African ports. Information had been received that a case of smallpox had been landed at Freetown, Sierra Leone, from the vessel on April 27th. The patient was a 2nd class West Indian passenger, aged 1 year 7 months, who had joined the vessel at Lagos on April 22nd with her mother. On April 26th the ship's surgeon diagnosed smallpox and isolated the case in hospital. He also isolated and vaccinated another family of West Indians, who were sharing the same cabin.

On April 27th the patient and her mother were landed at Freetown, Sierra Leone, and the ship's hospital and their cabin disinfected. The ship's surgeon vaccinated the 2nd and 3rd class passengers and stewards, the two stewardessess and the hospital steward. The vessel arrived at Plymouth on May 5th, but the Kelly family were not landed and were sent on to Liverpool, and the ship's surgeon was advised by the Port Medical Officer to vaccinate the native crew. This was done.

On May 8th the vessel arrived in the Mersey. All persons on board were inspected and their addresses checked, and the Kelly family were then removed to New Ferry Hospital for observation and isolation, for although their vaccinations had been successful, two of them had been in close contact with the case of smallpox, which developed into a severe form subsequently. The names and addresses of all on board were forwarded to the Medical Officers of Health of the districts of destination.

S.S. "Andania."—This vessel arrived in the Mersey on August 27th, and the ship's surgeon reported that two of the crew had been landed, one at Quebec and the other at Montreal, with suspected smallpox. On August 11th the look-out man reported sick, and on August 16th the ship's surgeon diagnosed chickenpox, but the Quebec Quarantine Authority diagnosed "varioloid," and removed the patient to hospital. The crew and 3rd class passengers were vaccinated. The patient had been vaccinated seven months previously with good results.

On August 15th, the 5th engineer reported sick, and was found to have a marked pustular rash. The Canadian Quarantine Authorities diagnosed "varioloid," and the patient was removed to hospital. He had been vaccinated in infancy. All the passengers were landed at Canadian ports. The crew were all well on arrival in Liverpool, and the names and addresses were forwarded to the Medical Officers of Health of the districts of destination.

In the cases of the other vessels which had left smallpox patients elsewhere, the incubation period had expired before the arrival of the vessel at Liverpool, so that it was only necessary to carefully inspect all persons on board to ensure that no secondary cases had been overlooked.

Typhus.

No cases of typhus were landed in Liverpool during the year.

S.S. Montclare.—This vessel arrived in the Mersey on May 28th, 1927, from Montreal. The ship's surgeon reported that he had received a

wireless message on May 23rd stating that M—— M—— had been removed to quarantine for Disease D., paragraph 1, page 5, Canadian Quarantine Regulations (Disease D. means typhus fever).

An emigrant and his wife arrived at Liverpool on May 3rd from Warsaw, *via* Danzig and London, and proceeded to a boarding house in N—— Street, Liverpool. They left in the "Montclare" on May 6th, and arrived at Quebec on May 14th, and with other foreigners passed through the clearing station for emigrants at Quebec, the disease being discovered on arrival at Winnepeg, Canada. The cabin occupied by the patient and the bedding were disinfected. No further cases occurred.

Anthrax.

Nine cases of anthrax occurred during the year in persons residing in the city. Three of these were men who worked on the docks amongst ships' cargoes, but one was a doubtful case; although the clinical picture was fairly typical, the case was not confirmed bacteriologically.

Concerning the remaining six cases, four were workers amongst or handled foreign wool or hair, either as wool brokers, samplers or employed in wool and hair factories. The remaining two cases were labourers in tanneries, where they had handled foreign dry hides. One death occurred amongst the nine cases.

One case of anthrax was admitted to a city hospital from a tannery at Runcorn.

Malaria.

During the year 1927 there were 92 new cases of malarial fever, which were either landed here or had recovered abroad, on 40 vessels, and the names and addresses of the patients, with particulars of the treatment and dosage given, together with the movements of the vessels, were forwarded to the Ministry of Health in accordance with their request.

Boarding Launch.

During the year the question of future policy in regard to the Port Sanitary Authority's boarding launch came under discussion. The

matter was fully investigated by the Port Sanitary and Hospitals Committee, and plans were eventually approved for a new launch, having twin screws and driven by semi-Diesel engines, and with a speed of 11-11½ knots.

A tender for the eonstruetion of such a vessel was accepted, and on November 17th the boat was launehed and ehristened "Moyles" by Mrs. Moyles, the wife of Alderman Dr. J. G. Moyles, chairman of the Port Sanitary and Hospitals Committee, after whom it is named. The vessel was afterwards completed at the eontractors' works, and then underwent her speed trials in the Mersey, maintaining an average speed of 11¾ knots over the "measured mile" despite adverse weather eonditions. The members of the Committee present on board during the trial expressed their satisfaction with the "Moyles," and the launeh was then formally taken over by them on behalf of the Corporation.

The "Moyles" is 68 feet in length, 14 feet 3 inehes beam, 7 feet 6 inehes depth, draft 6 feet 3 inehes, and is capable of a speed of 11½-12 knots.

The vessel is twin screw, the machinery eonsisting of two sets of the latest type of semi-Diesel 4-cylinder motors, eaeh being rated at 96 brake horse power. There is also an auxiliary motor of 7 B.H.P. for general purpose work, such as lighting, heating, pumping, etc.

The vessel is divided into five compartments—forepeak, erew's quarters, engine room, medical officer's cabin, and storeroom, with water-tight bulkheads between each compartment.

In the crew's quarters are separate rooms for the officers, eaeh eontaining a permanent bunk, a settee, wash hand stand, small table, drawers, ete., while a room eontaining two permanent bunks, settees, drawers, etc., is provided for the two seamen. Between these rooms are arranged on the port side a small pantry with sink, and on the starboard side a small open messroom for the officers. The main part of the

vessel amidships is taken up by the engine room, which is arranged with the propelling motors, one of each on port and starboard sides, with the auxiliary engine at the forward end. Two main fuel tanks are also fitted in this compartment, with a capacity of a thousand gallons.

The medical officer's cabin is situated abaft the engine room, and is equipped with two permanent bunks, two settees, a writing desk, table, first aid cabinet, washing and lavatory accommodation, and can, if necessary, carry four patients at one time. There are also two stretchers, which are specially designed for the removal of patients from one vessel to another. The cabin can be lighted and heated by electricity.

The navigation of the vessel is carried out from the navigation house, which is constructed immediately above the after-end of the crew's quarters. This house contains the steering gear, telegraphs and compass. In addition there is mounted a switchboard, which enables the navigator to control directly the navigation lights, morse signalling lamp, and special boarding lights. The vessel is equipped with both compressed air and electric sirens, operated from the wheel-house. A small galley on the starboard side, and a lavatory on the port side, for the use of the crew, are built on the main deck, the upper part of the navigation house being specially set back to cover these, thus obtaining one uniform structure.

One 14-feet lifeboat is carried abaft the funnel, and is launched by means of a derrick attached to the after-side of the funnel, which enables it to be launched on either side.

Fire extinguishers are fitted in every compartment.

The launch is of sturdy build, and was specially designed to withstand the heaviest weather, whilst her speed enables the medical officer to deal promptly with all vessels arriving in the Mersey from infected ports.

Venereal Diseases.

Satisfactory results are still being achieved from the scheme for the prevention and treatment of venereal diseases.

The clinics, now of several years' standing, have been fully utilised. There were 4,350 new cases, male and female, and the total attendances at the clinics, including the Seamen's Dispensary (49,834), were 104,581, representing an increase of over 11,000 attendances on the previous year.

The greatest increase was at the Seamen's Dispensary, where the attendances rose from 41,720 in 1926 to 49,834 in 1927, an increase of over 8,000 attendances.

RETURN SHOWING THE NUMBER OF **NEW CASES** ATTENDING THE VENEREAL DISEASES CLINICS DURING THE YEAR 1927, ALSO **TOTAL ATTENDANCES AND IN-PATIENT DAYS** OF **OLD AND NEW PATIENTS** DURING SAME PERIOD.

	Seamen's Dispensary Males only.	Royal Infirmary. Males and Females.	Royal Southern Hospital. Males and Females.	David Lewis Northern Hospital. Males and Females.	Stanley Hospital. Males and Females.	Total. Males and Females.
New Cases	1,842	1,363	515	349	281	4,350
Old and new patients						
Total attendances	49,834	25,893	13,068	9,138	6,648	104,581
In-patient Days	—	23	3,314	—	310	3,647

The occupations stated to be followed by patients attending the Royal Infirmary include seafaring people, and the number of patients of this class shows a remarkable falling off since 1924. It will be noticed from the following table that the decline is co-incident with the opening of the Seamen's Dispensary, which is conveniently situated for, and attractive to, seafarers generally.

Seamen's Dispensary.

Year.	New cases.	Seamen.	Total attendances (all patients).
1924 (9 months)	471		8,322
1925	1,084	Seamen's Dispensary approximately 90%.	27,265 } Males Only.
1926	1,360		41,720 } Males Only.
1927	1,842		49,834 } Males Only.

Royal Infirmary.

Year.	New cases.	Seaman.	Total attendances (all patients).	
1920	2,804	880	39,278	Males and females
1921	2,631	703	33,863	
1922	2,195	575	29,217	
1923	1,767	505	28,804	
1924	1,531	349	27,896	
1925	1,197	253	21,060	
1926	1,292	209	24,507	
1927	1,363	167	25,893	

Seamen's Dispensary.

The value of a whole-time clinic devoted entirely to the diagnosis and treatment of venereal diseases has again been demonstrated by the further increase in the attendances at the above Dispensary, as the following table shews:—

	1927	Increase over 1925	Increase over 1926
New patients (including Non-Venereal cases)	1,842	70%	35%
Old and New patients	2,642	100%	42%
Attendances*	55,063	100%	32%
Cures	421	100%	80%

* The largest number of attendances for any one day was 254, irrigations averaged 150 per diem, as against 100 last year, while the medical officer examined and treated as many as 112 patients in one day, compared with a maximum of 80 for 1926.

The classification of the persons suffering from venereal disease and dealt with at the clinic for the first time during the year, and also for the two previous years, was as under:—

	1925	1926	1927
Syphilis	293	444	459
Soft Chancre	148	136	157
Gonorrhœa	636	780	931
	1,077	1,360	1,547

The average number of attendances per patient shews an increase over previous years.

The number of patients who cease to attend before completing their treatment is on the decrease.

These facts, together with the increased number of cures, indicate a growing appreciation of the value of the facilities afforded at the clinic, and of the extreme importance of continuing under treatment until cured.

It is eminently desirable that persons suffering from syphilis and gonorrhœa should be seen by a doctor at an early stage and within a few days of the manifestation of the symptoms, and there are few diseases in which this is of more importance both for the patient and for the general public. It is interesting, therefore, to enquire into the percentage of patients applying for medical aid at different stages of the disease. Of the cases of syphilis reported for the first time at the seamen's dispensary, 20 per cent. were seen in the pre-Wasserman period, 28 per cent. showed a primary sore and positive Wasserman reaction, 10 per cent. showed well-established general symptoms such as rash, sore throat, etc., whilst 40 per cent. were cases of late or latent syphilis, including those who had been treated at some other time and place, and the disease was of some duration. Many no doubt desire to ascertain the effects of the previous treatment as to their freedom from infection, although the large percentage found to be positive shows that many of them have not received efficient treatment, probably being due to neglect to continue until the cure has been assured.

In the case of gonorrhœa the large proportion of patients have well established disease before seeking medical advice, many of these having complications. As the free medical treatment centres become better known and the dangers of delay become realised there will be more desire on the part of the patient to report for treatment at an earlier stage of the disease.

Stages of the disease at which the patient reports for treatment.

	Syphilis.		Approx.
A.	Pre-Wasserman stage	90	20%
B.	Primary sore and positive Wasserman ...	133	28%
C.	Well established general symptoms (rash, sore throat)	44	10%
D.	Late or latent syphilis	184	40%
E.	Central nervous system disease	8	2%

Evening Clinics.

The Ministry of Health having expressed the desire that facilities should be provided in the evenings for patients who could not attend for treatment during the daytime, evening clinics were inaugurated in the beginning of November. These clinics are held on Monday and Thursday evenings, the medical officer being in attendance until 7 o'clock. So far 16 such clinics have been held, 21 new patients being registered; the average number of attendances per clinic has been 30.

Experience has shewn that as the facilities afforded become more widely known the attendances increase, and it is to be anticipated that during the ensuing twelve months a much larger attendance at these evening clinics will be recorded.

Pollution of River and Docks by Fuel Oil.

During the year the sanitary inspectors carried out observations regarding the possible pollution of the river and docks by fuel oil. Their reports showed that with the exception of occasional small patches of oil on the foreshore between Garston and Dingle, due probably to leaking or spilled oil from vessels at Dingle oil jetty, the docks and foreshore were free from oil.

TABLE 7.

INFECTIOUS DISEASE.

The actual number of cases of Infectious Sickness landed from vessels arriving in the Port of Liverpool during the years 1926 and 1927, and the comparison with the average of the preceding 5 years, is shown in the following table :—

Diseases.	Number of Cases.		Average for the 5 years 1921-1925.
	1926.	1927.	
Smallpox	0	0	1·6
Scarlet Fever	5	16	11·0
Enteric Fever and Paratyphoid	8	13	10·0
Diphtheria	2	5	9·4
Measles and German Measles	10	12	14·0
Erysipelas	4	2	3·6
Chicken Pox	24	5	12·6
Cholera and Choleraic Diarrhœa.	0	0	0·0
Yellow Fever	0	0	0·0
Plague	0	0	0·0
*Suspected Plague	3	2	0·6
Pulmonary Tuberculosis	68	57	56·0
Tuberculosis (other forms)	10	2	4·2
Pneumonia and Influenza	14	23	13·2
Malaria	17	43	23·2
Dysentery	6	7	3·6
Encephalitis Lethargica	0	2	0·8
Totals	171	189	166·5

* Proved not infectious.

TABLE 8.

INFECTIOUS DISEASE.

The number of cases of Infectious Sickness reported to have occurred on Liverpool-bound ships during the years 1926 and 1927, and which were disposed of prior to the arrival of the vessel at this port, and the average of such cases for the preceding 5 years, are as follows :—

Diseases.	Number of Cases.		Average for the 5 years 1921-1925.
	1926.	1927.	
Smallpox	5	12	10·8
Scarlet Fever	3	6	2·4
Enteric Fever	31	24	15·0
Diphtheria	1	5	3·8
Measles and German Measles	49	44	28·6
Erysipelas	4	3	1·4
Chicken Pox	41	22	14·4
Cholera	1	1	0·8
Yellow Fever	0	0	0·2
Plague	2	0	0·8
Suspected Plague	6	1	0·2
Pulmonary Tuberculosis	31	39	21·6
Tuberculosis (other forms)	13	6	8·8
Pneumonia and Influenza	44	49	29·4
Malaria	220	180	370·2
Dysentery	13	10	13·4
Totals	464	402	524·0

TABLE 9.

The following table gives particulars of the vessels reported on Diphtheria, Measles, Chickenpox, Dysentery, Encephalitis Lethargica,

ENTERIC FEVER.

Date 1927.	Name of Vessel.	Where from.
January 9	Oroya	Valparaiso ... ...
,, 14	Euclid	R. Plate ... ...
Feb. 18	Texel	Singapore ... ...
,, 22	Thessaly	Rosario ... ...
,, 19	Isolda	Aviles ... ...
,, 21	Isolda	Aviles ... ...
March 8	Isolda	Aviles ... ...
,, 16	Isolda	Aviles ... ...
,, 30	Demosthenes	Australia ... ...
April 13	Traveller	New Orleans ... ...
,, 20	Inkula	Rosario ... ...
,, 26	Scythia	New York ... ...
May 15	Baron Herries	New Orleans ... ...
,, 31	Megantic	Montreal ... ...
June 4	Thessaly	R. Plate ... ...
,, 12	Adriatic...	New York ... ...
,, 29	Maple Branch	Chile and Peru ... ...
July 9	Oropesa...	Valparaiso ... ...
,, 14	Regina	Montreal ... ...
,, 20	Keemun	Singapore ... ...
,, 25	Megantic	Montreal ... ...
,, 30	Appam	West Africa ... ...
August 26	City of Dundee	Bombay ... ...
Sept. 4	Orita	West Coast South America ...

their arrival as having, or having had Enteric fever, Scarlet fever, or Erysipelas on board, with the measures adopted in each case:—

No. of Cases.	Rating.	How dealt with.
1	steward	landed Havana.
1	member of crew ...	landed Pernambuco.
1	2nd engineer ...	died 9th Dec., 1926.
1	2nd mate	died 15th Dec., 1926.
3	crew...	landed Freemantle.
3	crew...	landed Port Pirrie.
1	4th engineer ...	died 8th February, 1927.
1	able seaman ...	landed Belfast.
2	able seamen ...	admitted Garston Hospital.
1	cook...	admitted Fazakerley Hospital.
1	able seaman ...	admitted Fazakerley Hospital.
1	mate	admitted David Lewis Northern Hospital.
1	5th engineer ...	landed London.
1	seaman	admitted Fazakerley Hospital.
1	fireman	landed St. Vincent.
1	passenger	landed Queenstown.
1	cadet	landed Havana.
1	passenger	landed Glasgow.
1	able seaman ...	landed Las Palmas.
1	passenger	admitted Fazakerley Hospital.
1	apprentice	landed Iquique.
1	electrician	admitted Fazakerley Hospital.
1	steward	admitted Fazakerley Hospital.
1	seaman	landed and died in hospital in Singapore.
1	seaman	admitted Fazakerley Hospital.
1	member of crew ...	admitted Fazakerley Hospital.
1	Marconi operator ...	landed Gibraltar.
1	naval rating (P.O.)	recovered on arrival.

ENTERIC FEVER—Continued.

Date 1927.	Name of Vessel.	Where from.
Nov. 16	Defender	Calcutta ... ...
,, 29	Thorpe Grange	R. Plate ... ...
Dec. 5	Laconia...	New York ... ...
,, 13	Ceramic...	Australia ... ...

SCARLET FEVER.

Feb. 28	Conway...	River Mersey ... ...
March 3	Conway...	River Mersey ... ...
,, 23	Conway...	River Mersey ... ...
April 12	Oropesa...	Coronel ... ...
,, 29	Cedric	New York ... ...
May 2	Valacia	Bristol ... ...
,, 4	Australien	Australia ... ...
,, 16	Conway...	River Mersey ... ...
,, 16	Albertic...	Montreal ... ...
June 4	Athenia...	New York ... ...
July 11	Albertic...	Montreal ... ...
,, 16	Andania	New York ... ...
Sept. 29	Andania	New York ... ...
Nov. 8	Metagama	Montreal ... ...
,, 26	Montcalm	Montreal ... ...

DIPHTHERIA.

March 28	Caronia	New York ... ...

No. of Cases.	Rating.	How dealt with.
2	members of crew ...	admitted Fazakerley Hospital.
1	able seaman ...	landed Las Palmas.
1	deck boy	suffered on outward voyage.
1	ship's surgeon ...	landed to hospital at Durban.
2	cadets	admitted Conway House, Rock Ferry.
1	cadet	admitted Conway House, Rock Ferry.
1	cadet	admitted Conway House, Rock Ferry.
1	passenger	admitted Netherfield Road Hospital.
1	steward	admitted Netherfield Road Hospital.
1	5th engineer ...	landed to hospital at Bristol.
1	steward	admitted Grafton Street Hospital.
3	cadets	admitted Conway House, Rock Ferry.
1	steward	admitted Fazakerley Hospital.
1	passenger	notified by M.O.H., Salford, patient arrived 29th May, sailed 2nd June.
1	asst. pantryman ...	admitted Grafton Street Hospital.
1	passenger	admitted Grafton Street Hospital.
1	passenger	landed Quebec.
2	seamen	admitted Fazakerley Hospital.
1	passenger	admitted Fazakerley Hospital.
3	passengers	landed Greenock.
1	fireman	landed to hospital, New York.

DIPHTHERIA—Continued.

Date 1927.	Name of Vessel.	Where from.
April 12	Oropesa...	Coronel ... ...
,, 25	Avoceta...	Canaries ... ...
May 11	Circassia	Bombay ... ...
July 8	Doric	New York ... ...
,, 11	Ardeola	Canaries ... ...
Sept. 10	Minnedosa	Montreal ... ...
Nov. 11	Albr. W. Selmer	Archangel ... ...
Dec. 10	Laurentic	New York ... ...
Dec. 13	California	Bombay ... ...

MEASLES.

Jan. 31	Adda	West Coast Africa ... ...
Feb. 7	Celtic	New York ... ...
,, 18	Circassia	Bombay ... ...
,, 21	Montreal	St. John ... ...
,, 28	Montnairn	St. John ... ...
March 7	Alaunia	New York ... ...
,, 21	Montcalm	Montreal ... ...
,, 28	Regina	New York ... ...
April 4	Alaunia	New York ... ...
,, 16	Montcalm	St. John ... ...
,, 25	Minnedosa	St. John ... ...
May 4	Orcoma	West Coast South America ...
,, 7	Montrose	Montreal ... ...
,, 9	Kemmendine	Rangoon ... ...
,, 23	Scythia	New York ... ...
,, 23	Regina	Montreal ... ...

No. of Cases.	Rating.	How dealt with.
1	cadet	admitted Fazakerley Hospital.
1	trimmer	admitted hospital Las Palmas.
1	military passenger	landed Port Said.
1	passenger	landed Belfast.
1	steward	landed Lisbon.
1	5th engineer ...	admitted Fazakerley Annexe Hospital.
1	able seaman ...	admitted Fazakerley Hospital.
1	member of crew ...	admitted Fazakerley Hospital.
1	passenger	admitted Fazakerley Hospital.
1	steward	admitted Fazakerley Hospital.
1	passenger	landed Boston.
1	passenger	landed Port Said.
1	member of crew ...	landed Belfast.
1	passenger	admitted Fazakerley Hospital.
1	passenger	well on arrival.
1	able seaman ...	suffered on outward voyage.
1	steward	well on arrival.
1	passenger	landed Halifax.
1	passenger	landed New York.
2	passengers	suffered on outward voyage.
1	Q.M.	landed Partridge Island.
3	passengers	admitted Fazakerley Hospital.
1	passenger	suffered on outward voyage.
2	passengers	landed London.
1	passenger	admitted Grafton Street Hospital.
1	passenger	suffered on outward voyage.

MEASLES—Continued.

Date 1927.	Name of Vessel.	Where from.
May 23	Britannia	Bombay ... ...
,, 28	Montclare	Quebec ... ...
,, 31	Celtic	New York ... ...
June 3	Montrose	Montreal ... ...
,, 6	Doric	Montreal ... ...
,, 13	Letitia	Montreal ... ...
,, 15	H.M.S. Beaufort	
,, 18	Minnedosa	Montreal ... ...
,, 22	Orduna	Valparaiso ... ...
July 2	Hildebrand	Brazil ... ...
,, 23	Montclare	Montreal ... ...
August 2	Dramatist	Glasgow ... ...
Sept. 3	Montcalm	Montreal ... ...
,, 15	Mamilius	Australia ... ...
Oct. 24	Samaria...	New York ... ...
Nov. 11	Regina	Montreal ... ...
,, 14	Megantic	Montreal ... ...
Dec. 5	Letitia	Montreal ... ...
,, 6	Laurentic	New York ... ...
,, 15	Montclare	St. Johns ... ...

CHICKENPOX.

January 8	Patrician	S. Africa ... ...
Feb. 7	Alaunia	New York ... ...
March 10	Ediba	West Coast Africa ... ...
,, 29	Montnairn	New York ... ...

No. of Cases.	Rating.	How dealt with.
1	passenger	well on arrival.
2	passengers	admitted Fazakerley Hospital.
1	passenger	well on arrival.
1	passenger	admitted Fazakerley Hospital.
1	passenger	landed Belfast.
1	passenger	well on arrival.
1	stoker	admitted Fazakerley Hospital.
1	passenger	landed Quebec.
1	passenger	well on arrival.
1	passenger	died and buried at sea.
2	passengers	disembarked at Lisbon.
1	passenger	landed Quebec.
1	native A.B. ...	landed Glasgow.
1	passenger	admitted Grafton Street Hospital.
11	passengers	landed Sydney.
1	passenger	landed Queenstown.
1	A.B....	well on arrival.
3	passengers	landed Quebec.
1	passenger	admitted Fazakerley Hospital.
1	wireless operator ...	well on arrival.
1	passenger	landed St. Johns.
1	deck cassab ...	admitted Fazakerley Hospital and thence to New Ferry Hospital.
1	4th engineer ...	admitted Fazakerley Hospital.
1	passenger	landed Halifax.
1	apprentice	landed Sierra Leone.
1	passenger	landed Partridge Island.

CHICKENPOX—Continued.

Date 1927.	Name of Vessel.	Where from.
April 10	Elysia	Bombay ... ...
April 24	Macharda	Calcutta ... ...
May 5	Montclare	St. Johns ... ...
,, 5	Pardo	Las Palmas ... ...
,, 16	Laconia...	New York ... ...
,, 23	Scythia	New York ... ...
,, 28	Montclare	Quebec ... ...
,, 31	Ceramic...	Australia ... ...
June 11	Montcalm	Montreal ... ...
July 7	Demerara	Buenos Ayres ... ...
,, 11	Montcalm	Montreal ... ...
August 27	Andania	Quebec and Montreal ...
Sept. 4	Letitia	Montreal ... ...
,, 19	Demerara	Buenos Ayres ... ...
Dec. 13	Aurania...	New York ... ...

DYSENTERY.

January 1	Petworth	Canaries ... ...
,, 28	Benin	West Coast Africa ... ...
Feb. 4	Orcoma	Peru ... ...
,, 12	Ebani	West Coast Africa ... ...
March 24	City of Mandalay	Bombay ... ...
April 8	Royal Star	Tientsin... ... ...
,, 23	Raeburn	Rosario ... ...
,, 27	Egba	West Coast Africa ... ...
May 5	Jonathan C. Holt	West Coast Africa ... ...
June 20	Clan McBrayne	Madagascar ... ...

No. of Cases.	Rating.	How dealt with.
2	lascars	well on arrival.
5	natives	3 cases landed to hospital at Dundee. 2 cases landed Glasgow.
1	passenger	landed St. Johns.
1	member of crew ...	landed Havre.
1	passenger	admitted Fazakerley Hospital.
1	passenger	well on arrival.
1	passenger	landed Quebec.
2	passengers	landed to hospital at Southampton.
1	passenger	admitted Sparrow Hall Hospital.
1	passenger	well on arrival.
1	passenger	landed Greenock.
1	look-out man ...	landed Quebec.
1	passenger	admitted Sparrow Hall Hospital.
2	passengers	landed Santos.
1	waiter	discharged from hospital at New York.
1	Marconi operator ...	proceeded to his home to Rochdale.
1	member of crew ...	admitted Royal Infirmary.
1	D.B.S.	suffered during voyage.
1	3rd engineer ...	proceeded to Cardiff.
1	lascar	admitted to Brownlow Hill Institution.
1	member of crew ...	admitted Royal Infirmary.
1	fireman	proceeded to hospital in London.
1	D.B.S.	suffered during voyage.
1	cook...	suffered during voyage.
1	saloon topaz ...	died and buried at sea.

DYSENTERY—Continued.

Date 1927.	Name of Vessel.	Where from.
July 11	Kioto	Mombasa ... ...
August 4	Kantara	Galatz ... ...
,, 6	Assyrian	Alexandria ... ...
,, 30	City of Hong-Kong	Bombay ... ...
Sept. 22	Lesbian	Constantinople... ... ...
Nov. 25	Guido	Alexandria ... ...
Dec. 12	H.M.T. Bellerophon	Shanghai ... ...

ENCEPHALITIS LETHARGICA.

January 9	Ardeola	Canary Islands ... ...
Nov. 16	Celtic	New York ... ...

ERYSIPELAS.

May 5	Meroa	
Sept. 26	Samaria...	New York ... ...
Oct. 10	Cedric	New York ... ...
,, 13	H.M.S. Beaufort	
Dec. 23	Orduna	Valparaiso ... ...

No. of Cases.	Rating.	How dealt with.
1	fireman	admitted Brownlow Hill Institution.
1	fireman	to attend at Tropical School.
1	greaser	landed Malta.
1	D.B.S.	landed Gibraltar.
1	D.B.S.	recovered on arrival.
1	D.B.S.	recovered on arrival.
1	fireman	landed Gibraltar.
1	driver R.A.S.C. ...	admitted Seaforth Military Hospital.
1	passenger	admitted Fazakerley Hospital.
1	pantryman ...	admitted Fazakerley Hospital.
1	master	admitted Fazakerley Hospital.
1	passenger	suffered on outward voyage.
1	steward	landed New York.
1	stoker	admitted Fazakerley Hospital.
1	passenger	suffered on outward voyage.

The Hygiene of Crews' Spaces.

The vessels located in the Liverpool docks are inspected as soon as practicable after berthing by a sanitary inspector, who makes the usual enquiries as to the occurrence of sickness, source of water-supply, condition of tanks, bilges and all matters affecting the health of the passengers and crew. The living quarters on board are also inspected, and should any sanitary defects be found, an intimation of the fact is left with the officer in charge, requesting the matters to be attended to. As a rule these notices are always complied with, and it has never been found necessary in recent years to issue a statutory notice and take any proceedings.

The mortality amongst seamen has been referred to by the Registrar General in his Decennial Supplement on the Census of England and Wales for the year 1921, and from further information received from him the following figures have been prepared :—

	Occupied and retired males, civilian.	Seaman.
Comparative mortality figure (all causes)	1,000	1,768
Deduct deaths from violence	74	390
Net comparative mortality figure ...	926	1,378

The following extract is taken from the report :—

"The available data permit the seamen's comparative mortality figure from all forms of disease to be stated at 1,378, comparing with 926 for all occupied and retired males, so that the seaman's mortality from disease exceeds the average by 48·8 per cent., and his mortality from violence by 430 per cent. On the one hand, mortality is swollen by many exotic diseases, representing a risk to which the home population is not exposed, and on the other hand the traditional dangers of the sea, though greatly mitigated, evidently retain considerable importance. He is exposed, in fact, not only to the special risks associated with the discharge of his hazardous duties—explosion, fall, loss overboard, etc.—which may be compared with the risk of the miner or the shunter, but in addition to the special risk involved by residence

on shipboard, to which the conditions of dangerous occupations on land afford no parallel."

With regard to phthisis and cancer deaths the following tabular contrast is interesting. The figures are taken from the above-mentioned report and are the comparative mortality figures :—

	All occupied and retired males.	Seamen.
Phthisis	163·5	221·5
Cancer	128·4	146·7

There can be no doubt therefore that a large proportion of the mortality of seamen is due to accident and other conditions associated with the occupation, whilst a heavy incidence of mortality and disability arises from complaints contracted in tropical and other countries, e.g., malaria, dysentry, typhoid fever, smallpox, venereal disease, &c.

A slight improvement was brought about in the cubic space provided for seamen in the Merchant Shipping Act of 1906, giving 120 cub. ft. and 15 superficial feet per man. If a portion of this space is given up for mess-rooms and wash-spaces and the minimum kept at the low level of 72 cub. feet the amount cannot be considered to be satisfactory. In 1911 the matter was brought before the congress of the Royal Sanitary Institute, when it was referred to the notice of the Board of Trade. In 1914 questions were asked in Parliament. The President of the Board of Trade at that time stated that investigations were being conducted into the question of mortality amongst seamen, with a view to reporting what steps were desirable to diminish this mortality.

The outbreak of war, which led to the establishment of a Ministry of Shipping, under whose control and design new vessels were built, enabled a large improvement to be brought about. A table, which appeared in previous year's annual report showed the improvement in health conditions which had taken place in vessels built since the war, an improvement which has steadily increased up to the present time. While one cannot say that perfection has been reached in the matter, yet an increased improvement from 80 to 100 per cent. points to the

fact that signal service has been rendered to seamen, and that an advance has been made towards the amelioration of the conditions of health at sea.

The conditions referred to have now largely disappeared, thanks to the efforts of Port Sanitary Authorities throughout the country, together with the active co-operation of progressive shipping companies. Vessels are now more solidly built, and the safety and comfort of the sailor have been considered by placing his quarters in a better position. The factor of safety of life as well as of health has brought about the removal of the quarters to the after end of the vessel. The cubic space has been increased, modern bunks have been installed, and the quarters made more vermin-proof.

The quarters are now more habitable and cleansing and washing facilities, which are very necessary, especially for firemen, have been provided. Nor has the important question of the food of the sailor been neglected. Here again it must be agreed that there has been a steady improvement, in a large measure due to the help of the Board of Trade.

Shipowners have also been induced to provide hospital accommodation on shipboard for the reception of the sick. Facilities are also afforded on arrival in all ports for the treatment of disease such as malaria. In addition, there is an admirable and well-equipped institution in Liverpool, known as the Seamen's Dispensary, situated near to the Sailors' Home, where patients suffering from venereal diseases are treated free of charge.

It is obvious that none of these advances could have been brought about without the co-operation of the Board of Trade, the Port Sanitary Authorities, the men's unions, and last but not least, the progressive shipping companies referred to. The latter are happily well-represented in the Port of Liverpool. They all have one aim in view, namely, that of improving the lot and conditions of seamen whilst at sea.

It is felt desirable in many directions that the accommodation on new vessels for seamen should be passed by a competent sanitarian, preferably from the Board of Trade, for there are many ways in which

good accommodation can be spoiled by bad arrangement or neglect of details which are apparent to the trained observer. An engineer with sanitary qualifications might supervise the construction of these important portions of vessels.

It is to be hoped that the impetus which has been given to the improvement in the sanitary construction of ships may be continued, and that standards will be set up and become generally accepted before many years, even becoming of international concern. Only by such methods will sickness and mortality, which harasses the seafaring population and commerce will be minimised, and the matter will assume as much importance as that relating to any other section of the community.

Much could be done if the inspection of the crews' quarters during the voyage were made a daily disciplinary measure by competent and sympathetic officers, and the crews encouraged to take a pride in the cleanliness of their quarters. Ship cleanliness in the Royal Navy cannot be contrasted with that in the Merchant Shipping service until the discipline in the two services more nearly approaches a level.

Canal Boats.

The port sanitary inspectors have been appointed inspectors under the Canal Boats Acts, 1877 and 1884. During the year 970 boats were inspected, of which 66 were found to have some condition contravening the regulations.

INSPECTION OF SHIPPING.

Year 1927.

TABLE 10.

Nationality.	Visits.	Re-visits.	Total.
British	4,638	3,138	7,776
Norwegian ...	214	66	280
Swedish... ...	75	33	108
Spanish... ...	105	62	167
Danish	120	47	167
Japanese ...	35	36	71
Italian	21	31	52
Portuguese ...	1	1	2
Russian	21	15	36
French	41	21	62
Brazilian ...	11	27	38
Dutch	70	15	85
Greek	13	13	26
American ...	182	167	349
Belgian ...	6	5	11
German	47	20	67
Latvian	5	1	6
Esthonian ...	1	—	1
Finnish	30	9	39
Jugo Slav ...	4	8	12
Roumanian ...	1	1	2
Peruvian ...	2	1	3
Argentine ...	1	3	4
Total ...	5,644	3,720	9,364

TABLE 12.

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THE FOLLOWING TABLE SHOWS THE NUMBER AND NATIONALITIES OF THE VESSELS ON WHICH DEFECTS WERE DETECTED DURING THE YEAR 1927.

NATIONALITY.	Number of Ships.	Dirty Forecastles	Dirty Wash houses, Store-houses, etc.	Foul Water Casks.	Foul Bilges.	Foul W.C's.	Accumulations of offensive refuse.	Gear stowed in Crew's Quarters.	Damp Quarters.	Water lodging on top of Forepeak Tank.	Animals kept, causing nuisance	Leaky Decks overhead.	Defective Stoves.	Defective Bulkheads.	Defective Ports and Sky-lights.	Defective Ventilators.	Defective Flooring Boards	Defective Hatches and Lockers.	Defective Chain Pipes.	Defective Hose Pipes.	Defective W.C. Fittings.	Defective Soil Pipes.	Inadequate Ventilation.	Inadequate Lighting	Inadequate Drainage.	Bare Iron not Sheathed	W.C's. deficient in Ventilation and situation bad.	Total number of Defects.	Total Remedied.
British ...	899	3206	55	2	3	391	16	2	26	5	...	49	49	15	164	18	6	1	3	6	13	3	4	1	7	2	1	4048	3765
Norwegian ...	3	4	1	...	...	...	1	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	9	9
Swedish ...	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3
Spanish ...	13	24	4	...	...	2	2	2	1	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	39	33
Danish ...	3	4	...	...	...	...	...	...	...	...	...	...	...	...	2	...	..	...	...	...	1	...	...	...	...	...	...	7	5
Italian ...	9	30	8	...	...	6	2	...	1	...	...	1	...	...	2	...	...	...	...	1	...	...	...	...	...	..	...	51	45
German ...	2	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	3	3
Dutch ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Japanese ...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
Russian ...	1	.	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
Greek ...	3	8	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	10
Brazilian ...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	2	2
Rumanian ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...	..	...	...	...	8	...
Yugo Slav. ...	3	4	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	6
Belgian ...	3	6	...	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	15	12
American ...	4	6	1	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	9
Total ...	948	3297	70	2	3	409	31	4	28	5	...	50	49	15	183	19	6	1	3	7	17	3	4	1	7	2	1	4217	3907

SUMMARY OF INSANITARY CONDITIONS.

TABLE 11.

Class of Vessels.	Number Inspected.	Number on which Nuisances were found.	Per cent.
FOREIGN—			
Steamers	4,213	882	20·93
Sailing	—	—	—
Total...	4,213	882	20·93
COASTWISE—			
Steamers	1,428	65	4·55
Sailing	3	1	33·33
Total...	1,431	66	4·61

Nationality.	Number Inspected.	Number on which Nuisances were found.
British	4,638	899
Foreign	1,006	49
	5,644	948

Nuisances arising through

Defects of Orginal Construction. (*a*)	Per cent. of Total Defects.	Structural Defects through wear and tear. (*b*)	Per cent. of Total Defects.	Dirt, and other conditions prejudicial to health. (*c*)	Per cent. of Total Defects
15	0·36	353	8·37	3,849	91·27

Medical Examination of Aliens.

The following table gives the total number of aliens arriving in the Port of Liverpool during 1927, and the number in each of the categories under which alien passengers are classified by the Immigration Department of the Homc Office :—

Total aliens	Transmigrants	Residents returning	In transit
20,121	2,867	309	1,217

Visitors of 6 months or less		Diplomats & persons on Foreign Govt. Missions.	Seamen
On holiday, tourists, &c.	On Business		
14,144	662	116	112

Seamen under Contract to join ships in British Waters.	Ministry of Labour Permits	Other Aliens
38	25	641

The medical inspection of aliens is carried out by the Assistant Port Medical Officers. The object of inspection is to ascertain if any of the alien passengers are—

(1) Suffering from any disease likely to be a danger to the public health of this country.

(2) Suffering from any disease or deformity likely to cause such aliens or their dependents to bccome a public charge.

All aliens staying in this country morc than six months are, with certain exceptions, referred to the medical officer by the immigration officers for medical examination. Certificates of rejection, however, are few, the majority of aliens being visitors either touring or coming to see relatives in this country.

No alien is allowed to take up employment in this country without a special pcrmit from the Ministry of Labour, so that it is rare for the medical inspector to have to consider the earning capacity of an alien.

During 1927 medical certificates were issued in respect of six aliens, three for venereal disease, two for mental deficiency, and one for phthisis.

Transmigrants.

Elaborate precautions are taken by the United States Public Health Service to prevent the occurrence of typhus fever amongst emigrants from Central Europe to America. Special stations have been erected, through one or other of which all transmigrants must pass. Here, they are medically inspected, freed from vermin, and all their clothing disinfected. All second and third class passengers bound for the U.S.A., whether from the Continent or the British Isles, are inspected by a Medical Officer of the American Public Health Department immediately before sailing, and if any are found to be in a verminous condition, they are sent to the City hospitals, Netherfield Road, or Sparrow Hall, where suitable accommodation is available for the destruction of vermin in the clothing and belongings of each person. The cost of the disinfection is defrayed by the shipping company concerned. The transmigrants dealt with under this arrangement approximating 200 during the year 1927.

Emigration.

The number of emigrants leaving the port of Liverpool during the year 1927 was 123,801, an increase compared with the previous year, when the number of emigrants leaving the port was 116,672.

The following is a return of the number of emigrants and clearances of ships, including those passenger vessels in which medical inspection was not required, from 1913-1927 :—

TABLE 25.

In 1913,	347,541	Emigrants, and	1,199	Clearances of Ships.
,, 1914,	232,954	,,	1,065	,,
,, 1915,	75,387	,,	677	,,
,, 1916,	58,749	,,	562	,,
,, 1917,	18,908	,,	379	,,
,, 1918,	13,588	,,	287	,,
,, 1919,	120,187	,,	673	,,
,, 1920,	204,868	,,	769	,,
,, 1921,	161,132	,,	714	,,
,, 1922,	120,691	,,	804	,,
,, 1923,	159,874	,,	850	,,
,, 1924,	122,201	,,	869	,,
,, 1925,	111,918	,,	894	,,
,, 1926,	116,672	,,	850	,,
,, 1927,	123,801	,,	892	,,

The following Tables, Nos. 26 and 27, relating to Emigration have been kindly supplied by the Board of Trade.

TABLE 26.

Statement showing the number of Passengers (Emigrants and others), distinguishing British subjects and Aliens, who left the Port of Liverpool for places out of Europe in the year 1927 :—

Destination.	British Subjects.	Aliens.	Total.
British North America ...	38,475	21,742	60,217
Australia and New Zealand	6,879	56	6,935
British South Africa ...	1,922	55	1,977
India (including Ceylon)...	5,653	201	5,854
Other parts of the British Empire ...	7,573	389	7,962
Total British Empire ...	60,502	22,443	82,945
United States	16,323	16,291	32,614
Foreign South America ...	2,748	576	3,324
Other Foreign Countries	4,717	201	4,918
Total Foreign Countries ...	23,788	17,068	40,856
Grand Total ...	84,290	39,511	123,801

TABLE 27.

Number of Passengers (Emigrants and others), distinguishing British subjects and Aliens, as given in Table No. 25, who left the Port of Liverpool in each month of the year 1927 :—

Month.	British Subjects.	Aliens.	Total.
January	4,801	1,040	5,841
February	4,181	1,460	5,641
March	7,635	4,376	12,011
April	10,230	6,125	16,355
May	6,856	3,758	10,614
June	5,940	2,271	8,211
July	8,049	3,021	11,070
August	8,366	6,793	15,159
September	10,903	5,169	16,072
October	9,357	2,812	12,169
November	4,470	1,463	5,933
December	3,502	1,223	4,725
Total	84,290	39,511	123,801

Emigrant Inspections.

All emigrants, travelling second class or steerage on board vessels outward bound, are subject to inspection by the Medical Officers of the Board of Trade. The crews of all such vessels bound for America are also subjected to inspection by these officers. An Inspector of the Port Sanitary Authority attends these clearances in order to supervise the removal of any persons who may be rejected on account of actual or suspected infectious disease.

There were 227 such inspections, and 16 persons were rejected on account of infectious disease.

TABLE 28.

Date 1927.	Name of Vessel.	Nature of Sickness.	Where taken to	Description of Patient.
Jan. 13	Montroyal ...	Syphilis	Returned home ...	Adult
Feb. 26	Aurania ...	Syphilis	Returned home ...	Adult
Mar. 4	Regina ...	Impetigo	White Star Boarding house	Child
,, 11	Montclare ...	Scabies	Returned home ...	Adult
„ 18	Montrose ...	Chicken Pox ...	Fazakerley Hospital ...	Adult
,, 29	Arawa ...	Chicken Pox ...	Sparrow Hall ...	Children (2)
June 18	Letitia ...	Small Pox ? ...	Fazakerley Hospital ...	Adult
Aug. 13	Letitia ...	Pleurisy	Returned home ...	Adult
Sept. 10	Letitia ...	Impetigo	Returned ashore ...	Child
,, 10	Letitia ...	Pneumonia ...	Royal Southern Hospital	Adult
,, 16	Minnedosa ...	Whooping Cough	Fazakerley Hospital ...	Children (2)
Oct. 21	Montclare ...	Measles	Grafton Street Hospital	Child
,, 26	California ...	Scabies	Cunard Boarding house...	Adult
Nov. 26	Baltic ...	Haemoptysis ...	Returned home ...	Adult

The numbers of transmigrants notified from other Port Sanitary Authorities, or discovered upon examination in Liverpool to be suffering from "Trachoma" or "Conjunctivitis," during the year were:—

Cases under treatment 1/1/27	2
,, notified from Hull or other ports	69
,, discovered in Liverpool	9
	80

Number of above who sailed for U.S.A. and Canada ...	77
,, ,, returned home	3
	80

Supervision of Food Importations.

The inspection and control of imported food as regards soundness for human consumption has been very carefully attended to. This inspection is carried out without any serious delay or inconvenience to the trade. Whilst much unsound food is destroyed the great bulk, whenever possible, is released under suitable guarantee for industrial purposes, great care being taken to prevent it being marketed in any form for human consumption, only firms approved of by the Medical Officer of Health being allowed to receive the material.

Damage to meat cargoes may arise from accident to the vessel, faulty refrigeration during the voyage; other cargoes or grain, &c., may be damaged through sweating, bilge water, fire, etc., the material being utilised wherever possible for industrial purposes.

Under the Public Health (Preservatives in Food) Regulations, 1925, which are now in operation, no person may import into England and Wales any article of food intended for human consumption which contains certain prohibited preservatives or colouring matters.

Under the recently-issued Public Health (Imported Food) Regulations, in addition to certain prohibited meats, there are meats which are "conditionally admissible," i.e., those requiring an official certificate recognised by the Ministry of Health and attached to the container. These include, amongst other foods, lard, dripping, edible tallow and similar rendered fats. No difficulty has been experienced during the year in connection with these imports of fats; and no cases of contravention of the regulations have been met. In connection with the presence of prohibited preservatives suitable arrangements have been

made for the import of such products to be notified to the Port Sanitary Authority, who will require to be satisfied that the goods are stored or bonded under guarantees and subsequently exported to countries where their sale is not restricted.

The condition of frozen and chilled meat on discharge from ships is subject to careful supervision. Should any condition of unsoundness appear when the cargo is landed, a note is made of it and the consignment subsequently detained and examined in cold store, no portion of the meat being released unless it is suitable for human consumption.

All offal, such as tongues, kidneys, &c., frozen in a solid mass are usually subject to special defrosting and examination. Bone taint has been evident on one or two occasions, but it usually become evident when the quarters of meat are being cut up in cold store.

The printed memorandum issued in 1913 on the packing of boneless meat to facilitate inspection, &c., is again reprinted with the object of making the requirements as generally known as possible.

PORT OF LIVERPOOL SANITARY AUTHORITY.

Memorandum on the Freezing and Packing of Boneless Meats in reference to Early Examination and Quick Despatch at Port of Entry.

To facilitate examination, the freezing and packing of boneless meats must be carefully attended to and the following points noted :—

A.—To facilitate the identification and character of goods for customs and other purposes.

1. There must be a true declaration of the contents of the bag or package.
2. Cuts of the same kind, only, must be placed in the same bag or package, there must be no mixture.
3. The goods must be carefully manifested, giving the number of packages of each kind of cut to be found in the shipment.

B.—To facilitate inspection.

1. The parts must be frozen separately.
2. Under Public Health (Imported Food) Regulations, 1925, no scraps or trimmings can be imported.

   It is particularly requested that the cuts of meat shall be as large as possible, and when boned, must be brought in as near as possible the natural shape, no rolling or folding can be allowed.

   If the goods are found to be folded and rolled it will be necessary to thaw them out.

Cut of Meat	Shape in Freezing	Serous Membranes	Glands.
Flanks.	Frozen flat.	In the case of thin flanks the peritoneum to be left exposed	——
Necks.	Full necks, and natural shape as cut off the quarter.	——	——
Shins.	A full shin ; natural shape.	——	——
Buttocks.	To be laid open to expose interior (not folded) this especially in the case of inferior quality of beef.	——	Popliteal gland to be exposed for examination.
Clods.	Natural shape as cut from quarter.	Pleural membrane not removed.	Prescapular gland to be exposed and left.
Loins.	Natural shape as cut from quarter.	Peritoneal membrane not removed.	Lumbar glands left intact.
Loins and Flanks.	Frozen flat.	Serous (peritoneal) membrane not removed.	Lumbar glands left.
Chucks.	Natural shape as cut from quarter.	If the cut be large, pleural membrane to be left.	Prescapular gland to be left for examination.
Ribs.	Remove the rib bones, leaving the portions of flesh between the bones in its natural position.	Pleural membrane to be left (no stripping). It is inadvisable to remove the ribs and with them the pleural membrane when boning this cut.	——
Middles.	As ribs.	As ribs.	As ribs.
Shoulders.	Ought to be cut large and frozen flat.	If cut through the chest cavity, membrane and glands to be left.	Where glands are present to be left intact.
Rumps.	Left in natural shape and frozen.	——	Do.
Briskets.	Frozen flat, no folding.	Pleural membrane left intact.	Glands left intact.

Cheeks. — Full Cheeks frozen separately, no scraps.

Livers.
Tripe.
Kidneys (beef).
Tongues.
Skirts (with pleura and peritoneal membrane)
Tails.
Hearts.
Plucks.
Other boxed meats.

These are to be frozen separately, so that each organ, or part, when hard frozen, may be casily removable from the bag or box for examination.

Liverpool Port Sanitary Offices,
Pier Head.

First issue, 13th July, 1913.

It is interesting to note that during 1927 only a small amount of diseased meat was dealt with; this will be seen from the appended tables. There were, however, several vessels with damaged cargoes of beef, mutton, pork and other commodities.

One vessel, the "Amiral de la Mornay," arrived from South American ports with a defective refrigerator and landed consignments of beef, mutton and lamb in a damaged condition. After inspection, 47,793 lbs. were rejected for brine damage, mould, decomposition, &c.

During March the "Royal Star" from China, which had been in collision in Eastern waters, landed a large percentage of the cargo of mutton, pork and tins of egg pulp in a damaged condition. The following were rejected as unsound:—

7,783 carcases of mutton.
175 part carcases of mutton.
159 carcases of pork.
11,439 tins (approximately 163 tons) of egg pulp.

The above were all affected with moulds, decomposition or were sour.

From March to August various steamers from the River Plate landed large quantities of prime ox beef; of these 679 hinds were found to be affected with bone taint and the larger part of each quarter was rejected.

The unsound meat was allowed to be sent for industrial purposes under suitable guarantee.

The egg pulp was exported under guarantee for leather dressing.

Four "Export Notices" were served during the year 1927 under the Imported Food Regulations.

In February the s.s. "Fulmar" arrived from Rotterdam with a parcel of nine barrels of salted pigs maws. As there was no Netherland's "Official Certificate" attached, a "Notice to Export" was served on the importers. The goods were exported to Rotterdam.

In March the s.s. "Royal Star" arrived from China with a consignment of 519 cases of pork trimmings and 253 cases of tenderloins. A notice to export was served upon the importers, as the products did not conform to the regulations.

A vessel from China discharged 25 casks of liquid egg yolk. As this consignment had not been carried in a refrigerator, a sample was submitted to the analyst for the presence of prohibited preservative. The report stated that no prohibited preservatives were present.

In October the s.s. "Myrmidon" discharged 78 bags of green peas damaged by sea-water. This parcel was sold for pig food.

The importation of colonial and foreign fruits has maintained its high average for the previous year, and many new varieties have been introduced, e.g., grapes, peaches, plums and even fresh vegetables. Such imports have only been possible by the introduction of new modern steamers with cold chambers. The exercise of supervision and care is required during the voyage.

Australian apples have arrived in most steamers in fairly good condition and free from "brown heart," one ship only being found to contain about 500 packages of affected fruit. They were dealt with on the quays and subsequently utilised for cattle food.

As reported last year, Australian sultanas arrived affected with moth larvæ (Plodia interpunctella). Arrangements were made by the Australian Government to have this fruit treated with a fumigant on landing in England before being sold to the public, and for this purpose the Medical Officer and Deputy Medical Officer visited the warehouses to supervise the arrangements.

Canadian apples arrived in good condition, British Columbia being a large contributor to the supply. Many consignments of fresh grapes, pears, plums (carried in cold chambers) have been introduced, and have been a success. South African fruits in great variety were landed and samples of pears and plums were taken for chemical analysis.

Consignments of Brazilian fruits have arrived in meat steamers, but the condition on arrival has not been satisfactory.

American apples, Californian oranges, and grape fruit arrived in large quantities. In many cases the grape fruit has been landed in a wasteful condition, but has been dealt with on the quay. Dried plums, sultanas, and raisins, etc., have been landed from the Pacific Coast.

A communication was received by the Medical Officer in regard to the examination of dried fruits (currants, figs, &c.) from Grecian and Turkish ports. Samples were taken and submitted to the analyst for examination. The Deputy Medical Officer visited ships to see the character of the fruit landed and stored.

Large quantities of Dutch and Belgian fruit pulp arrive and are examined on the quay. Where necessary, samples are taken for examination for prohibited preservatives, under the Public Health (Preservatives, &c., in Food) Regulations, which have now come into force.

Almeria grapes were imported in bad condition this year and many consignments had to be dealt with on the quay and destroyed. Lisbon apples showed signs of "brown heart," and one small parcel had to be destroyed.

A quantity of Jaffa lemons affected with a species of coccus insect (Aspidiotus) was reported.

Arsenic in Imported Apples.

The subject of the presence of arsenic deposit on imported apples still continues to engage the attention of the Port Sanitary staff.

The United States authorities have now arranged a system of inspection and certification of consignments of apples intended for export to this country. Certificates (export form certificate) are withheld where the chemical examination of samples indicates that arsenic is present in excess of 1/100 grain per pound. This method has been introduced following on a new process of washing the fruit which has been instituted; this appears to have overcome the previous difficulty in removing the deposit. The analysis checks the efficiency of washing. The control at present exercised by the United States authorities applies to apples and pears from the Pacific Coast group of States, i.e., Colorado, Utah, Montana, Idaho, Washington, California, Oregon and New Mexico.

During the present season numerous samples of apples have been examined for the presence of arsenic from various consignments from the above States, and it is very exceptional to find the quantity to exceed 1/100 grain per pound.

An examination of samples of Australian apples imported into this port showed no evidence of the presence of residue from arsenic spray.

In December last the s.s. "Lochmonar" arrived with a very large cargo of green and dried fruits from the Pacific Coast. An accident occurred to this ship, and almost the whole of the cargo was badly damaged. The cargo was landed, and after examination over 60,000 packages of fruit had to be destroyed.

During the past year a very large addition to the Port Authority's jurisdiction has been opened at the Gladstone Dock; in this area a large quantity of fruit is discharged, and certain spaces are reserved for the landing and storing of foodstuffs. Some shipping companies have reserved special places and limewashed sheds for the landing of fruits.

The following table gives the particulars of samples of foodstuffs, etc., sent to the City Analyst and Bacteriologist during the year 1927 :—

TABLE 13.

CITY ANALYST.	
Canned Peas	1
,, Egg Pulp	3
,, Logan Berries ...	2
,, Banana Jam ...	1
,, Haricot Verts ...	2
Sugar	1
Cherries	1
Pears	3
Apples	44
Margarine	1
Compound (Lard)	6
Pig Head	1
Currants	4
Sultanas	3
Grape Fruit	1
Ham Dusting	1
Egg Yolk	2
Milk Powder	1
Strawberry Pulp	1
Gooseberry Pulp	1
Ox Tripe	1
	81

CITY BACTERIOLOGIST.	
Wool	154
Mussels	1
Pig Head	1
	156

One sample of Loganberries and one sample of mussels were examined; neither call for any special comment. Two specimens of blood from seamen were examined, and both showed positive evidence of typhoid infection. Three specimens of fluid from seamen were examined for evidence of plague infection, and all proved negative. During the year 148 samples of treated and untreated imported and dangerous Wool, Hair, etc., were examined for the Government Wool Disinfecting Station for the presence of anthrax bacilli. Three untreated samples showed evidence of anthrax infection, but all the treated samples were sterile.

During the year 6,781 rats from ships, quays, etc., were examined and no evidence of the bacillus of plague was found in any of them.

TABLE 14.

SHOWING THE NUMBERS OF CATTLE, SHEEP, AND SWINE EXPORTED FROM IRELAND TO LIVERPOOL DURING THE YEAR 1927, AND SHOWING THE PORTS IN IRELAND AT WHICH THE ANIMALS WERE SHIPPED.

	Cattle.	Sheep.	Swine.
Ballina	214	12,624	4,516
Belfast	1,894	8,241	161
Cork	23,691	23,113	28,662
Drogheda	20,959	46,320	916
Dublin	107,224	180,182	7,495
Dundalk	10,461	31,897	2,432
Galway	19	4,241	402
Londonderry	3,433	11,567	570
Limerick	2,170	—	61
Newry	1,871	12,716	1,073
Sligo	182	12,749	10,475
Waterford	27,719	36,813	5,202
Total	199,837	380,463	61,965

TABLE 15.

SHOWING THE TOTAL NUMBERS OF THE SEVERAL KINDS OF CATTLE, SHEEP AND PIGS EXPORTED FROM IRELAND TO LIVERPOOL DURING THE YEAR 1927.

CATTLE.	No.	SHEEP.	No.
Fat	156,702	Fat	156,877
Stores (for fattening)	39,458	Stores	2
Milch Cows	1,034	Lambs	223,584
Springers	380		
Calves	2,263	Total Sheep ...	380,463
Total Cattle ...	199,837		

PIGS.	
Fat	61,825
Stores	140
Total Swine ...	61,965

TABLE 16.

STATEMENT SHOWING THE NUMBER OF LIVE CATTLE, &c., LANDED AND SLAUGHTERED AT THE FOREIGN ANIMALS WHARF (BIRKENHEAD, ALFRED AND WALLASEY LAIRAGES) DURING THE YEARS 1920 TO 1927 INCLUSIVE.

Year.	Landed.				Slaughtered.			
	Oxen.	Calves.	Pigs.	Sheep, Lambs and Goats.	Oxen.	Calves.	Pigs.	Sheep, Lambs and Goats.
1920	**247,015**	**6,230**	**31,050**	**341,350**	**110,688**	**9**	**569**	**164,669**
1921	**195,785**		**19,224**	**325,982**	**63,178**	—	**2,766**	**165,963**
	49,434	—	—	6,706	49,224	—	—	6,706
1922	**262,601**	**8**	**31,257**	**418,604**	**63,002**	**1**	**515**	**153,381**
	38,648	1	—	—	38,648	1	—	—
1923	**166,994**	**7**	**77,536**	**194,296**	**50,432**	—	**4,886**	**90,736**
	39,690	—	—	7,003	37,482	—	—	7,003
1924	**217,176**	—	**58,690**	**358,310**	**54,572**	—	**4,985**	**134,207**
†	417	—	888	4,568	37	—	3	627
‡	52,193	—	—	4,252	42,324	—	—	4,252
1925	**159,638**	—	**16,745**	—	**41,332**	—	**883**	**10,608**
	218	—	366	253,617	32	—	2	349
	43,673	—	—	3,919	35,567	—	—	—
1926	**165,187**	—	**35,785**	**312,745**	**45,876**	—	**1,681**	**150,378**
†	208	—	171	4,052	16	—	—	605
‡	38,870	—	490	—	28,997	—	490	—
1927	**199,172**	—	**61,713**	**379,736**	**62,323**	—	**1,657**	**164,985**
†	351	—	413	4,635	43	—	—	332
‡	4,074	—	—	—	3,712	—	—	—

Heavy type represents Irish. † Isle of Man. ‡ Foreign.

TABLE 17.

SHOWING THE VALUES OF THE IMPORTS OF MEATS (EXCEPT POULTRY AND GAME) INTO THE PORT OF LIVERPOOL DURING THE YEARS 1919 to 1926.

Description.	Years.							
	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.
	£	£	£	£	£	£	£	£
Bacon	38,708,464	21,746,024	13,472,791	8,819,177	8,506,723	7,080,117	8,612,930	7,415,016
Beef, fresh and refrigerated ...	11,916,393	17,754,543	13,430,866	8,016,721	8,561,258	7,771,561	9,992,622	10,333,855
Beef, salted...	180,015	—	—	—	—	—	—	—
Hams	7,404,202	109,461	4,225,544	5,148,303	5,043,264	4,547,822	5,183,481	4,389,201
Mutton, fresh and refrigerated ...	2,219,436	5,702,678	5,842,010	4,262,439	4,879,930	3,337,957	4,314,957	3,498,206
Pork, fresh and refrigerated ...	310,654	1,639,590	920,772	419,018	948,484	555,610	623,824	538,273
Pork, salted	100,808							
Rabbits	143,983	342,821	95,873	65,563	77,096	33,092	44,393	67,275
Unenumerated, fresh, refrigerated and salted	2,588,273	973,877	678,012	581,442	419,381	403,506	550,386	492,290
Preserved, otherwise than by salting	13,012,291	2,638,774	1,253,263		1,541,595			
Totals	£76,584,519	£50,907,768	£39,919,131	£27,312,663	£29,977,731	£23,729,665	£29,322,593	£26,734,116

TABLE 18.

SHOWING THE QUANTITY OF UNSOUND MEATS UTILISED UNDER SUPERVISION DURING THE YEARS 1922 TO 1927.

Year.	Beef.				Mutton.				Pork.			
	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.
1922	44	18	1	19	10	9	1	8	2	12	1	18
1923	28	5	3	10	33	9	3	31	—	16	1	9
1924	40	14	1	8	6	17	1	13	1	6	3	13
1925	1,184	15	1	5	7	10	1	1	—	4	1	15
1926	336	0	2	2	4	6	1	1	—	7	2	26
1927	68	8	1	4	161	10	1	19	9	2	0	14

TABLE 19.

SHOWING THE QUANTITY OF UNSOUND OFFAL UTILISED UNDER SUPERVISION DURING THE YEARS 1922 TO 1927.

Year.	Beef.	Mutton.	Pork.	Veal.
1922.....	30,794 pieces.	26,991 pieces.	5,129 pieces.	15 pieces.
1923.....	20,309 ,,	11,401 ,,	962 ,,	23 ,,
1924.....	13,468 ,,	14,574 ,,	4,998 ,,	13 ,,
1925.....	40,160 ,,	10,129 ,,	1,883 ,,	541 ,,
1926.....	13,889 ,,	31,217 ,,	1,566 ,,	209 ,,
1927.....	9,243 ,,	6,725 ,,	2,790 ,,	248 ,,

TABLE 20.

TABLE SHOWING THE QUANTITY AND DESCRIPTION OF UNSOUND MEATS SUPERVISED* DURING THE YEAR 1927.

Description.	Total Weight.				Cause of Destruction.											
					Tubercular.				Brine Stained, Mouldy and Decomposed.				Other causes. (Emaciation, Dropsy, etc.)			
	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.
Beef	68	8	1	4	—				68	5	0	3	0	3	1	11
Mutton	161	10	1	19	—				161	4	2	11	0	5	3	8
Pork	9	2	0	14	—				9	2	0	14	—			
Veal	0	5	2	26	—				0	5	2	26	—			
Total	239	6	2	17	—				238	17	1	26	0	9	0	19

* These were destroyed or allowed to go for industrial purposes to the satisfaction of the Medical Officer.

SHOWING THE QUANTITY AND DESCRIPTION OF OFFAL CONDEMNED DURING THE YEAR 1927.

Name of Organ.	Beef.		Mutton.		Pork.		Veal.	
	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.
Livers	810	10,749	89	104	151	421	158	522
Tongues	56	239	39	6	1	2	32	49
Hearts	28	114	—	—	1	1	—	—
Skirts	188	340	—	—	—	—	—	—
Cheeks	10	25	—	—	444	1,022	—	—
Kidneys	362	339	—	—	49	14	58	22
Udders	52	256	—	—	—	—	—	—
Tripe	4,183	46,858	—	—	—	—	—	—
Tails	948	993	—	—	—	—	—	—
Feet	566	2,668	6,596	2,906	—	—	—	—
Plucks	—	—	1	2	114	519	—	—
Heads	—	—	—	—	430	4,604	—	—
Bellies	—	—	—	—	1,600	1,894	—	—
Glands (Pancreas)	2,040	1,950	—	—	—	—	—	—
Totals	9,243	6,453	6,725	3,018	2,790	8,477	248	593

The organs dealt with above were rejected for various reasons, notably, decomposition and diseased conditions, such as Cysts, Inflammation, &c

TABLE 22.

SHOWING QUANTITIES OF UNSOUND GENERAL FOOD-STUFFS UTILISED UNDER SUPERVISION DURING THE YEAR 1927.

Description.	No. of Tins.	Weight in Pounds	Description.	No. of Tins.	Weight in Pounds.
Canned Goods—			Cream	29	76
Apples ...	79	287	Egg	11788	378987
Apricots ...	991	2509	Figs	48	36
Apricot Pulp ...	57	277	**Beef**	17344	102742
Banana Jam ...	280	560	**Mutton** ..	1333	7998
Cherries ...	767	847	Tongues ...	2042	10873
Fruit Salad ...	591	481	Veal-loaf ...	381	2288
Greengages ...	16	32	Pork & Beans	1367	1509
Loganberries ...	118	120	Meats	1	4
Mixed Fruit ...	144	360	Rabbits ...	36	63
Peaches ...	1426	2674	Brisling ...	52	13
Pears	2111	3788	Lobster ...	551	167
Prunes	104	26	**Sardines** ...	32	4
Peas	26	5	**Crab**	966	407
Pines	18103	24222	Pilchards ...	30	87
Bilberry Pulp	68	340	Salmon ...	5039	2663
Black Currant ,,	40	400	Cray Fish ...	62	17
Tomatoes ...	25734	61310	Prawns ...	6	1
Grape Fruit ...	349	174	Spinach ...	100	200

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs
Fruit (Fresh)—					
Apples	2802	73	13	3	10
,, loose	—	82	9	0	0

TABLE 22—*continued.*

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
Fruit (Fresh) *continued*—					
Bananas...	1758	94	18	1	26
,, loose	—	8	0	0	0
Oranges	1841	74	11	2	17
,, loose	—	652	10	0	0
Pomegranates	25	1	2	1	8
Pears	1021	14	18	2	0
Grape Fruit	1661	70	16	0	3
Greengages	7	—	1	1	24
Plums	97	1	0	2	8
Apricots	19	—	2	2	10
Peaches	2	—	—	1	8
Grapes	878	13	12	2	10
Melons	138	6	9	2	16
,, loose	—	—	17	0	0
Tomatoes	54	—	4	3	16
,, loose	—	—	1	0	0
Mixed Fruit, loose	—	11	12	0	0
,, ,, ...	4	—	1	0	10
Sultanas, loose	—	—	—	—	23
Almonds	2	—	—	2	0
Raisins	1164	14	11	0	0
Prunes	479	5	12	2	26
Onions	183	9	15	2	0
Potatoes...	124	6	4	0	0
Turnips	280	14	0	0	0
Brussels Sprouts	4	—	10	2	24
Kidney Beans	24	—	12	—	—
Coco Nuts	52	1	11	1	10

TABLE 22—*continued.*

Description.	Packages.	Weight.			
		Tons.	Cwts.	Qrs.	Lbs.
Cereals—					
Wheat	—	589	17	2	18
Maize	—	250	5	0	11
Rice	131	9	6	2	24
,, loose	—	4	13	2	12
Peas	5	—	4	1	13
,, loose	—	5	7	0	12
Flour	580	37	8	3	26
,, loose	—	3	8	3	2
Barley, loose	—	—	14	3	8
Oats	—	3	6	3	24
Rye Flour	2	—	4	—	—
,, ,, loose	—	6	4	2	20
Rice Flour, loose	—	—	1	1	0
General—					
Hams	—	—	6	3	27
Bacon, pieces (20)	—	—	4	1	10
,, trimmings	—	1	2	3	6
Lard	3	—	11	1	5
,, loose	—	—	6	1	26
Eggs (25780)	—	1	2	1	12
Ginger	—	—	—	3	20
Cheese	—	—	—	—	10
Salmon	5	—	16	1	8
,, (single 55)	—	—	9	3	8
Trout	10	—	16	1	—
Pork Griskins	2	—	4	1	14
Glaced Cherries	1	—	—	—	21

TABLE 23.

SHOWING THE TOTAL QUANTITIES OF THE DIFFERENT UNSOUND FOODSTUFFS UTILISED UNDER SUPERVISION DURING THE YEAR 1927.

	Tons.	Cwts.	Qrs.	Lbs.
Beef Mutton, Pork and Veal...	239	6	2	17
Offal (Beef, Mutton, etc.) ...	34	4	0	11
Canned Goods...	270	15	2	11
Fruit and Vegetables	1,160	0	3	25
Cereals	911	4	0	2
General (Fish, Poultry, Rabbits, etc.)	6	2	0	27
TOTAL ...	2,621	13	2	9

TABLE 24.

Showing comparative Value of the more important Food Stuffs imported at the principal Ports during the year 1926.

	London. 1	Liverpool. 2	Hull. 3	Glasgow. 4	Bristol. 5	Harwich. 6	Newcastle 7	Manchester. 8	Leith. 9	Southampton. 10
	£	£	£	£	£	£	£	£	£	£
Animals	—	5,349,582	—	2,081,132	213,224	—	—	691,705	—	—
Butter	20,952,017	1,219,202	3,533,694	643,134	270,838	1,984,556	4,150,793	234,681	4,075,906	1,899,579
Cheese	9,568,260	1,028,871	233,715	443,838	815,262	204,126	247,931	389,815	201,341	71,467
Cocoa	1,373,016	1,794,596	143,807	3,797	42,940	188,573	5,181	—	52,174	—
Coffee	2,575,586	53,069	—	—	680,199	—	—	—	—	39,462
Grain	25,951,033	19,045,641	14,205,623	5,788,694	8,722,581	23,904	2,524,291	5,943,110	3,492,379	554,549
Eggs	7,813,580	1,833,538	824,595	1,045,365	—	1,255,794	1,005,256	130,072	1,543,485	551,734
Fish	2,771,397	3,407,292	613,192	110,115	49,074	1,312,229	605,813	56,673	106,947	256,935
Fruit	18,280,423	13,639,882	2,591,505	2,810 508	3,405,769	782,806	534 929	1 340,784	314,394	2,551,005
Lard	1,819,228	3,023,204	476,519	295 615	469,011	71,082	628 488	1,233,959	69,735	188,046
Margarine	1,274,099	1,152,042	937,823	323 901	—	640,807	600,115	324,133	428,698	—
MEAT :—										
Bacon	11,619,242	7,415,016	2,748,557	348,481	352,140	8,077,798	3 855,691	308,693	495,550	627,086
Beef	22,565,808	10,333,855	275,569	483,887	31,435	—	54,444	88,412	—	1,419,328
Hams	977,360	4,389,201	—	1,509,955	130,033	—	—	152,045	—	92,306
Mutton	13,437,688	3,498,206	105,735	45,752	183,514	59,358	—	83,884	—	204,652
Pork	937,743	538,273	—	—	—	188,662	—	—	—	—
Rabbits	483,806	67,275	—	—	—	—	—	3,424	—	–
Unenumerated / Preserved	655,382	492,290	322,929	546,135	78,044	430,400	253,309	—	404,107	137,194
Milk, Condensed	2,598,294	566,567	535,740	44,398	197,793	—	436,623	307,129	167,891	45,777
Poultry and Game	941,853	139,213	16,712	—	—	232,008	—	—	—	194,793
Sugar	10,558,155	7,849,504	1,140,243	915,137	825,231	—	622,894	320,714	810,028	239,460
Vegetables	2,138,052	1,731,454	1,161,615	161,842	126,572	261,816	265,216	208,949	294,831	2,186,297

The Medical Officer to the Port Sanitary Authority desires to express his appreciation of the valuable assistance received from H.M. Collector of Customs and Staff, the Mersey Docks and Harbour Board and their Officers, and the various Shipping Companies who have co-operated with the Port Sanitary Authority in the maintenance of Public Health and the prevention of disease in the port. The Consular Bodies have at all times also given courteous assistance.

A. A. MUSSEN, M.D.,
Medical Officer of Health.

Municipal Offices,
Liverpool,
1*st June*, 1928.